DOCUMENT RESUME

ED 440 718 JC 000 382

TITLE	Entrepreneurship Education for Agriculture. Phase "O" Planning Project Report. Performance Report. Volume I: Findings and Supportive Information.
INSTITUTION	Lee and Associates, Starkville, MS.
SPONS AGENCY	National Council for Agricultural Education, Alexandria, VA.; Ewing Marion Kauffman Foundation, Kansas City, MO. Center for Entrepreneurial Leadership.
PUB DATE	1994-08-31
NOTE	102p.; For volume 2, see JC 000 383.
PUB TYPE	Reports - Evaluative (142) -- Tests/Questionnaires (160)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	*Agricultural Education; Agricultural Personnel; Curriculum Development; Educational Needs; *Educational Practices; *Entrepreneurship; National Surveys; *Needs Assessment; Postsecondary Education; *Program Development; Secondary Education

ABSTRACT

Focusing on the status of entrepreneurship education in agriculture at the secondary, postsecondary, and adult/young adult levels, volume 1 of this report presents findings from a national study conducted to provide planning information for a major national initiative on agricultural entrepreneurship education. First, an introductory section provides background to the project and describes its scope. Next, findings are reported for the following 12 study objectives: (1) assessing the need for entrepreneurship education in agriculture; (2) assessing the current level of entrepreneurship knowledge; (3) determining the potential outcomes of infusing entrepreneurship education in curricula; (4) assessing existing entrepreneurship education programs; (5) identifying curricular strategies for implementing entrepreneurship programs; (6) developing specifications for entrepreneurship materials; (7) developing approaches for meeting state and national standards; (8) creating a staffing plan; (9) creating a development plan for the project; (10) strengthening relationships with other agencies; (11) identifying potential action force members; and (12) developing elements and deliverables of the infusion project. The next section presents a proposed national development and infusion plan, based on findings and including information on needs for agricultural education and strategies for meeting those needs. The final section provides supporting documents, including reports of a Delphi study undertaken to determine potential outcomes of infusing enterpreneurship into agricultural education; focus group findings; a national survey of agriculture entrepreneurship instruction; and current activities in entrepreneurship education. (Contains a resource list of 22 groups, foundation, and agencies.) (CELCEE, an Adjunct ERIC Clearinghouse on Entrepreneurship Education) (HAA)

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ED 440 718

Performance Report

VOLUME I
Findings and Supportive Information

PHASE "O" PLANNING PROJECT REPORT

ENTREPRENEURSHIP EDUCATION FOR AGRICULTURE

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(VOLUME II contains the bibliographies and storyboard scripts)

August 31, 1994

JC 000 382

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ACKNOWLEDGEMENTS

Many individuals provided valuable support and assistance in the conduct of this planning project. The role of several are acknowledged here.

The support of Dr. Marilyn Kourilsky, Vice President, Center for Entrepreneurial Leadership, Ewing Marion Kauffman Foundation, is greatly appreciated. Her enthusiasm for entrepreneurship education in agriculture and the commitment of financial resources to establish a planning project in entrepreneurship education are gratefully acknowledged. The help of Carol Allen of the Foundation is also acknowledged.

Dr. Greg Kourilsky is acknowledged for his suggestions in the conduct of the project. His attention to procedural details enhanced the quality of the study.

The role of Jay Eudy, Acting Administrator of The National Council for Agricultural Education, in supporting and encouraging the work of this project is greatly appreciated.

The support and enthusiasm of Dr. James Gibson of the National FFA Foundation are greatly appreciated. His attention to details in the conduct of the work helped make the work of the planning project a pleasure.

The encouragement and assistance of Dr. Larry Case of the U. S. Department of Education and Dr. Gene Eulinger of the Missouri Department of Education are greatly appreciated. Their assistance and identification of sources of information are appreciated.

Several individuals assisted with the conduct of the work in this project, as follows:

Dr. Michael E. Newman of Mississippi State University is acknowledged for his work in carrying out the delphi study to identify the outcomes of entrepreneurship education in agriculture.

Dr. Glen C. Shinn, Alice Shinn, and Augstin Lara of Texas A&M University are acknowledged for their assistance in preparing the annotated bibliography on minority entrepreneurship in agriculture.

Dr. Willie Cheatham of Alabama A&M University is acknowledged for his assistance in the conduct of the national survey of secondary

agricultural teachers to determine the status of and needs in entrepreneurship education in agriculture.

Daniel Gardner of Mississippi State University is acknowledged for his work in developing the storyboard scripts for the video tapes.

Special acknowledgement goes to Lou Boland of LEE AND ASSOCIATES in Starkville, Mississippi, for her many hours of dedication in carrying out this planning project. Her high level of professionalism is greatly appreciated. Her work in coordinating all phases of the planning project and in compiling data and preparing reports is appreciated. The assistance of Lela Ladner is also acknowledged.

All of the individuals who provided resources, materials, ideas, and suggestions are acknowledged. They helped to make the study possible!

Jasper S. Lee
Mississippi State, MS 39762

ABSTRACT

A study was made to determine the status of entrepreneurship education in agriculture in the United States. The educational programs included agricultural education at the secondary, postsecondary, and adult/young adult levels. Students, teachers, program administrators, state supervisory personnel in agricultural education, and agriculture teacher educators were used as sources of information. Methods were used to assure a wide range of geographical, agricultural, and cultural information for the study.

Information was collected in several ways. A survey was conducted of a nationwide scientific sample of 537 secondary agriculture teachers. Five focus groups were held in different geographical areas of the United States with representatives from all levels of agricultural education participating. A delphi study was carried out with individuals who have established reputations in entrepreneurship education. Computer searches were made to gather information on materials, research, and other areas related to the study. Individuals of high competence and known productivity were used in the work.

Examination of the findings indicated that a large infusion of entrepreneurship development is needed in agricultural education. A major national initiative to enhance the status of agriculture entrepreneurship is needed at all levels in agricultural education. Considerable effort is needed in curricular planning and development. Instructional materials are needed for use by teachers, including media-oriented materials such as video tapes and computer-based programs. Student-oriented materials are needed to enhance the active participation of the learners in agriculture entrepreneurship. In addition to specific materials on agriculture entrepreneurship, concepts of entrepreneurship need to be integrated into instruction in the technical areas of agriculture. Further, student organization activities should increasingly include entrepreneurship activities.

Considerable emphasis is needed on educating professionals in agricultural education for their roles. Teachers need workshops and other training to assure that they are qualified to provide instruction in entrepreneurship. Individuals who are involved in developing instructional materials need inservice education on entrepreneurship. Teacher educators need assistance in revamping requirements and courses to include the appropriate education for pre-service and inservice teachers.

To accomplish the important infusion of agriculture entrepreneurship in agricultural education, a major national initiative is needed to provide and stimulate the development and implementation of necessary instructional components. Considerable attention must be given to the acquisition of the resources to accomplish the infusion. The National Council for Agricultural Education, the National FFA Foundation, the National Vocational Agricultural Teachers Association and other professional and support groups in agricultural education should aggressively establish a mechanism to see that the needs are met.

Introduction

to

Performance Report

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Overview

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INTRODUCTION TO PERFORMANCE REPORT

The purpose of this report is to present the findings of a study to provide comprehensive planning information for a major national initiative on entrepreneurship education in agriculture. The overall goal is to improve the capabilities of students in agricultural education in entrepreneurship. This addresses all areas of the agricultural industry, including production agriculture, horticulture, forestry, marketing, and the supplies and services sector. Several of these are collectively referred to as agribusiness.

The investigations used the following definition: Entrepreneurship is the identification and pursuit of market opportunity in the face of risk which may result in new businesses and/or products or services.

Overview

Students are enrolled in secondary, postsecondary, and adult/young adult agricultural education programs in the United States. More than 750,000 students are enrolled in 7,886 secondary schools and 570 postsecondary schools (Lee, Jasper S. (1994). **Report of a National Study: Agricultural Education Programs in the United States**. Mississippi State: LEE AND ASSOCIATES).

The curriculum varies widely among schools and states. Traditional areas of production agriculture have been broadened to include horticulture, forestry, agricultural mechanics, agricultural supplies and services, agricultural products/marketing, and natural resources. Some of these areas are further divided into specialized programs such as retail floristry, small animal care, and equitation.

In recent years, curriculum emphasis has shifted toward undergirding the agriculture instruction with science through an approach known as the integration of science and agriculture. Greater emphasis is being placed on the biological, physical, and earth sciences. In some cases, mathematics has been included in the integration efforts. The term, agriscience, is often used to describe this curricular direction.

The nature of the instruction in entrepreneurship in agriculture has been relatively unknown. Agricultural educators have traditionally stated that entrepreneurship was included. The scope of the instruction, needs of teachers and students, and supporting materials had not been investigated prior to this study.

Scope of the Study

This planning project involved a wide range of approaches in gathering in-depth national-level information on entrepreneurship education in agriculture and, through a synthesis of the findings, the development of an action plan to infuse appropriate instruction. Twelve objectives were specified for the study. Information was collected nationally from secondary, postsecondary, and adult/young adult agriculture teachers, students, schools administrators, state leaders in agricultural education, agricultural teacher educators, state superintendents of education, state commissioners of agriculture, state extension service directors, and state economic development authorities. In addition, contacts were made with authorities on entrepreneurship education and other potential sources of information.

Information was gathered in several ways. Surveys, letters, database searches, delphi methods, focus groups, literature reviews, and personal contacts were used. Hundreds of letters and telephone calls were made. Publishers of materials were contacted for catalogs. Conferences, displays, and other contacts were used to gather the information.

The researchers attempted to follow procedures that would provide reliable and valid information. Input from authorities in particular areas was obtained to help assure a quality product. Several agricultural educators have made contributions to the research, and these are included in the acknowledgements.

Organization of Report

This report is organized into three major areas: Findings Summary, National Development and Infusion Plan, and Supporting Documentation. The Findings section is presented in twelve parts--one for each objective. The National Development and Infusion Plan is presented as one part with two subsections in the plan. The Supporting Documentation is presented in various categories by the nature of the investigation that contributed to this report.

Findings Summary

Contents:

Objective 1 -	Assessment of Need and Interest
Objective 2 -	Information on Entrepreneurship Knowledge
Objective 3 -	Outcomes of Infusing Entrepreneurship Education
Objective 4 -	Assessing Existing Entrepreneurship Education
Objective 5 -	Curricular Implementation Strategies
Objective 6 -	Developing Specifications for Entrepreneurship Materials
Objective 7 -	Approaches for Meeting State and National Standards
Objective 8 -	Staffing Plan
Objective 9 -	Development Plan
Objective 10 -	Facilitative Relationships
Objective 11 -	Identification of Action Force Members
Objective 12 -	Proposal Development

FINDINGS SUMMARY

Summaries of the findings of this study are reported for each objective in the Proposal for the Planning Project. The Proposal listed 12 objectives.

Objective 1
Assessment of Need and Interest

The procedures used to assess the needs and interests of agricultural educators included a scientific survey of a sample of secondary level agricultural educators and the conduct of focus group sessions. Observations of local agricultural education programs as well as teacher education programs were used. State curriculum materials were also obtained in an effort to assess need and interest. Database searches were used in an attempt to identify what was available in ascribing needs in entrepreneurship education. The supporting documentation in this report shows a tremendous need for enhancing instruction in entrepreneurship in agriculture.

National Survey of Secondary Agricultural Educators

The need and interest in entrepreneurship education in agriculture varies widely. Curriculum materials, teaching plans, and student-oriented materials were the greatest needs as expressed by the survey respondents. Inservice education for the teacher was also identified as necessary for enhancing entrepreneurship education. The teachers were overwhelmingly interested in getting materials on entrepreneurship education. Considerable interest exists in video tapes on agriculture entrepreneurship, with some need expressed for computer-based instructional materials. The survey found that the teachers appear to have many needs and are searching for help with entrepreneurship education in agriculture.

Focus Groups

The focus groups indicated a wide range of need and interest in entrepreneurship in agriculture. Many agricultural educators lacked fundamental knowledge of the concept of entrepreneurship. Instructional materials and inservice education were major needs. Creative ways of teaching entrepreneurship should be

developed. Supervised experience activities need to be expanded to include more emphasis on entrepreneurship. Greater use needs to be made of programs in the FFA and other student organizations in teaching agriculture entrepreneurship.

Other Sources of Information

Curriculum guides, commercially published materials, and state high school graduation requirements generally show a lack of education in entrepreneurship. Several state superintendents of education reported that courses in economics were required for high school graduation. The state superintendents occasionally reported that marketing education classes were used to teach entrepreneurship. None of the superintendents reported that agriculture was used to teach entrepreneurship. Sources of direction or leadership for local school programs do not show a strong commitment to instruction in entrepreneurship in agriculture. This can be viewed as a general lack of commitment to entrepreneurship education. Enhanced visibility of entrepreneurship education is needed among officials responsible for curriculum development, high school requirements, and program administration.

Objective 2
Information on Entrepreneurship Knowledge

The procedures to investigate information on entrepreneurship knowledge included holding focus groups, surveying agriculture teachers, reviewing state curriculum guides, examining high school graduation requirements, reviewing reports of research on entrepreneurship, and making extensive bibliographic searches for entrepreneurship materials in agriculture.

Bibliographic Searches

Several bibliographic searches were used to compile information on books, curriculum guides, research reports, demonstration projects, instructional materials, and other materials. Three separate bibliographic reports were prepared: Bibliography on Entrepreneurship Education in Agriculture, Annotated Bibliography on Entrepreneurship Education in Agriculture, and Annotated Bibliography on Minority Entrepreneurship in Agriculture.

Locating materials for the bibliographies required considerable searching. Few materials exist that address entrepreneurship in agriculture. The quantity of materials on minority entrepreneurship in agriculture is small. Many of the materials that are available deal with management activities rather than entrepreneurship. The investigations show that materials are needed on agriculture entrepreneurship.

Agriculture Teacher Education

A survey of agricultural teacher education programs revealed very little activity in entrepreneurship education. The teacher educators reported no undergraduate and graduate degree requirements in entrepreneurship. Course syllabi from elective classes in other departments were identified but students in agriculture teacher education programs weren't required to enroll in them. Inservice workshops were occasionally used to provide information on entrepreneurship education. Further, the teacher educators did not express strong interest in making changes in their programs to enhance teacher preparation in entrepreneurship.

Objective 3
Outcomes of Infusing Entrepreneurship Education

The outcomes of infusing entrepreneurship education were investigated using a delphi process, with 26 expert individuals initially included. Thirteen individuals completed three rounds in the study.

The third and final round of the delphi procedures resulted in three areas of outcome being specified: high school outcomes; postsecondary outcomes; and adult/young farmer outcomes. Each of these was further divided into student outcomes and community, school, and teacher outcomes. (The Report of the Delphi Study on Outcomes for Infusing Entrepreneurship into Agricultural Education is presented beginning on page 27.)

The major outcome of entrepreneurship education in agriculture for secondary students was stated as the ability to identify potential opportunities for entrepreneurship. This was followed by the development of problem solving skills. The lower-ranked items on the list were in areas of management. The top outcomes to the community, school, and teacher included improved school-community relations and increased economic/business activity in the community.

The major outcome of entrepreneurship education for postsecondary students was said to be the ability to make decisions. This was followed by communication and business skills development. The top outcomes to the community, school, and teacher included improved school-community relations and more practical orientation to the curriculum.

The major outcome of entrepreneurship education for adults/young farmers was said to be increased interest in entrepreneurship and entrepreneurial activities. The major benefit to the community, school, and teacher was the same as with secondary and postsecondary students: improved school-community relations.

Objective 4
Assessing Existing Entrepreneurship Education

Computer searches, literature reviews, and personal contacts were used to assess existing entrepreneurship education. Few programs including entrepreneurship education were found in agriculture.

State Departments of Agriculture

The most viable entrepreneurship-related programs appear to be under the auspices of state commissioners of agriculture. For example, the State of North Dakota holds a MarketPlace Conference each year. A learning packet is produced for participants in the Conference. Other states apparently have similar activities through state departments of agriculture.

A few state departments of agriculture reported that they worked with the elementary and secondary schools and provided information. For example, Georgia provides "Ag in the Classroom" material to the schools. (Note: The extent to which the material promotes entrepreneurship was not determined.)

States also reported on-farm demonstration projects and activities related to entrepreneurship. North Carolina reported emphasis on alternative agriculture and small farm development.

State Extension Service Agencies

Several state directors of Extension reported various activities that they interpreted as being entrepreneurship education in agriculture.

The most prominent approach reported was support for home-based businesses. Though not always described in detail, it is suspected that these often focus on sewing and related activities that typically occur in homes on small farms.

Several states reported using materials developed by the Small Business Administration and state economic development authorities. Except for those that deal with alternative agriculture, most of the materials reported focus on small business management, including ways of doing business.

State Departments of Education

State superintendents of education responded or had others in their department respond. Few states have any activities or requirements in entrepreneurship. Several

reported requiring classes in economics or other areas of social studies. The states often collaborate with outside agencies for materials, such as PACE, Junior Achievement, and EconomicsAmerica.

North Carolina reported that entrepreneurship was integrated in all vocational education curricula. Washington, Mississippi, and South Carolina offer elective courses in entrepreneurship education but these are not in agriculture. Several states reported including entrepreneurship education in marketing education classes. Five states reported requiring a one-semester class of economics prior to high school graduation.

State Supervisors of Agricultural Education

Only a few state supervisors responded and those that did typically indicated that record keeping or nothing at all was specifically being done in entrepreneurship education in agriculture. Nebraska indicated several items in entrepreneurship were used as developed by the National Center for Research at The Ohio State University. Two states mentioned using Project REAL.

Objective 5
Curricular Implementation Strategies

Very few initiatives to implement agriculture entrepreneurship in the curriculum were identified. Repeatedly, agricultural educators indicated the need for inservice education and curriculum and instructional materials. Focus groups, the national survey, and informal discussions all pointed to the need for inservice education and development activities.

National-level strategies that are transportable to the states and local levels are needed. Materials need to be developed that appropriately address agriculture entrepreneurship. Inservice efforts to disseminate the materials and train agricultural educators are needed. These would likely be at the national level followed by regional or state inservice. The "Train-the-Trainer" system that has been used in agricultural education has some possibilities. However, greater accountability in fulfilling the role of the "Train-the-Trainer" approach is needed at the state level.

Objective 6
Developing Specifications for Entrepreneurship Materials

Information on materials was collected with the focus groups and through the

national survey of the teachers. In addition, materials were reviewed for format and content. Three storyboard scripts for video tapes in entrepreneurship were developed.

Focus Group Suggestions

The primary suggestions for materials centered around active, hands-on approaches. Some classroom learning would be followed up with student groups or individuals carrying out activities after school hours. Examples of activities for supervised experience are needed. Information is needed on using the school laboratory for hands-on entrepreneurial learning, such as the production of horticultural and aquacultural crops. Record keeping systems need to be simplified and designed to encourage entrepreneurship experiences. Computer-based materials as well as video tapes were mentioned. Individuals also mentioned that entrepreneurship education should be integrated with instruction in the various production enterprises.

National Survey Suggestions

The survey of teachers resulted in three materials being rated highest in terms of need. First, student-oriented materials on agriculture entrepreneurship are needed. This was followed by teaching plans and curriculum guides.

The findings indicate that the student materials should be written to include the important concepts and at the appropriate level, be appropriately illustrated, and carefully sequenced. Further, the content of these materials would be included in a teaching plan and curriculum guide. In order to provide these materials, an overall framework for instruction in agriculture entrepreneurship would be needed.

The findings also indicate that agribusiness, production agriculture, horticulture, and supplies and services areas of instruction were best suited to the integration of entrepreneurship concepts. Individuals who develop curriculum and instructional materials should consider these findings.

Other Information

Very few instructional materials are available that address agriculture entrepreneurship appropriately for agricultural education classes. Two textbooks are widely used: *Agribusiness Management and Entrepreneurship* (Interstate Publishers, Inc., 1993) and *Agribusiness: An Entrepreneurial Approach* (Delmar Publishers, 1992). Both books follow acceptable approaches in format and content and have teacher's manuals available. *Agribusiness Management and Entrepreneurship* includes

several chapters on computer applications in agribusiness management. Several states and schools have adopted the books.

Outside of agriculture, *Entrepreneurship and Small Business Management* (Glencoe/McGraw-Hill, 1994) is used at the secondary school level. This book has a kit entitled *Entrepreneurial Endeavors* that contains 90 pamphlets on various aspects of entrepreneurship. Specific examples in the kit include a plant and animal section with descriptions of opportunities as a nursery owner, in fish farming, and in pet breeding. Another book designed for use in the secondary schools is *Exploring the World of the Entrepreneur* (Delmar Publishers, 1994). This book has some orientation toward business and technology education.

The Center on Education and Training for Employment at The Ohio State University has produced an instructional package on entrepreneurship entitled *Program for Acquiring Competence in Entrepreneurship* (PACE). These materials consist of 21 modules with separate editions prepared for students and teachers.

Storyboard Scripts for Video Tapes

Storyboard scripts for three video tapes were developed by an experienced video script writer and producer. The areas or subjects of the storyboard scripts were identified following initial findings of this project. The three storyboard scripts are: Introduction to Entrepreneurship in Agriculture, Introduction to Entrepreneurship in Aquaculture, and Introduction to Entrepreneurship in Horticulture. The proposed storyboard scripts include both audio and video treatment. Teachers use a wide range of video tapes in agricultural education and have indicated a need for tapes on entrepreneurship. (The storyboard scripts are in Volume II of the Project Report.)

Objective 7
Approaches for Meeting State and National Standards

Entrepreneurship education varies widely among the states in agricultural education as well as in general education. Further, most states have no specific requirements in entrepreneurship education but include it with a course on economics. Efforts to get state standards resulted in a few curriculum guides or lists of courses required for graduation from high school.

National standards for entrepreneurship education in agriculture have not been identified. The National Council for Social Studies in Washington, D.C., is developing standards for areas of social studies. Entrepreneurship will be included in the standards on economics. In addition, the National Business Education Association is in the process of developing standards for entrepreneurship education for secondary

and postsecondary programs in the United States. These standards are currently in a preliminary draft stage.

Objective 8
Staffing Plan

A staffing plan to fulfill the mission of a national initiative in entrepreneurship education in agriculture will need to include individuals at the national, state, and local levels who are qualified to prepare and deliver agriculture entrepreneurship materials and inservice. All activities and structures must have the involvement of professionals in the field of agricultural education, including representatives of the National Vocational Agricultural Teachers Association. Several previous national initiatives have used good approaches in diffusing and encouraging the adoption of innovations in agricultural education.

The work should be carried out by The National Council for Agricultural Education or a similar group in association with the National FFA Foundation. The administrator or board of The National Council should appoint a national task force on entrepreneurship and designate a chair for the group. This task force would function as an overall professional advisement group at the national level in a manner similar to task forces that have been used in other areas, such as aquaculture. The group would use the findings of this and other research as well as the input of authorities on strategies to be followed and products to be developed. The administrator of The Council or an individual employed by The Council should administer a program to develop a broad range of materials and approaches in agriculture entrepreneurship education. The products and services would be carefully delineated, developed, and provided by individuals in the profession of agricultural education on a competitive basis. This would involve issuing requests for proposals and using careful review to select the best individuals to provide the deliverables. The board of The Council would be regularly informed on progress in the developmental work. Every effort should be made to include representatives from the various groups associated with agricultural education.

More details on the staffing plan are contained in the Development and Infusion Plan for Entrepreneurship Education in Agriculture.

Objective 9
Development Plan

A development plan for a national initiative in agriculture entrepreneurship education is presented in the National Development and Infusion Plan. The plan is

summarized here. (The National Development and Infusion Plan is presented in its entirety beginning on page 21.)

A systematic plan to meet the needs for entrepreneurship education in agriculture includes tentative outcomes, ways and means for achieving the outcomes, and evaluation procedures. The tentative outcomes were identified through delphi processes and survey procedures. The products and services needed are as follows:

1. A visionary leadership group should be established to provide overall direction for the initiative in agriculture entrepreneurship. This is the task force that was previously proposed in Objective 8. The administrator or another individual associated with the leadership group should function as a clearinghouse for all developments in entrepreneurship education in agriculture.

2. Information and communication programs and materials should be developed to enhance the status of instruction in agriculture entrepreneurship. Brochures or other public information materials should be developed and widely distributed in the agricultural education profession. This material should increase awareness among agricultural educators for entrepreneurship education. Briefings should be held with professional association leaders at the national, regional, and state levels. This includes teachers, supervisors, and teacher educators. News releases and teleconferences should also be among the strategies used.

3. Inservice training should be provided for agricultural educators in agriculture entrepreneurship. A national staff development plan or model should be prepared. The plan should be transportable to regions and districts. Financial support for teachers and other agricultural educators to participate should be provided.

4. Materials to infuse instruction in agriculture entrepreneurship should be developed. The initial work must involve the identification of the goals, objectives, and standards that should be achieved. These materials include curriculum guides as well as teaching plans and student-oriented materials. Emphasis should be given to student-use materials once the curriculum content has been identified. Appropriate dissemination strategies must be followed.

5. Instructional materials should be developed that provide systematic instruction at the appropriate levels for the students. Materials will be needed for secondary, postsecondary, and adult/young adult students who are enrolled in agricultural education. Individuals who are involved in developing instructional materials need to be encouraged to integrate entrepreneurship education in all of the materials.

An important part of the development plan will be formative and summative evaluation. The individual in charge of the national initiative as well as third party evaluators should carry out the appropriate evaluation activities.

Objective 10
Facilitative Relationships

The task force proposed in Objective 8 and further described in Objective 9 should be comprised of individuals who can help strengthen the relationships developed by The National Council for Agricultural Education, staff of the National FFA Foundation, and the management team for this project. The individual selected by The National Council to administer the national initiative in entrepreneurship education should have the autonomy to work at continuing and strengthening the facilitative relationships. Further, this individual will need to be able to work within the field of agricultural education to plan and carry out the initiative. The individual should have the capacity to work in a variety of situations.

The role of the Ewing Marion Kauffman Foundation in strengthening and developing appropriate relationships is essential. The support of individuals and sources that have not traditionally been a part of the agricultural education community is needed. The Foundation can serve a most valuable role in this regard.

Objective 11
Identification of Action Force Members

The names of potential action force members were solicited in letters to contacts in state departments of education and agriculture as well as other sources. A partial listing was previously provided to the National FFA Foundation. A more complete listing of individuals who might be in positions to make strong contributions to the establishment of a national initiative in entrepreneurship education in agriculture is presented below.

(Note: The inclusion of the names of the individuals does not constitute an endorsement of individuals. These individuals were suggested or nominated during the course of the work described in this report. As contained in the proposal to carry out this planning project, the final determination of the individuals on the action force is with the sponsor, the Director of Nonprofit Organizations with the National FFA Foundation, the Administrator of the National Council for Agricultural Education, and other individuals that any of these individuals or agencies may choose to involve. Further, the sequence on the listing in no way suggests any ranking or other assessment has been made.)

Robin Anderson
Center for Entrepreneurship
University of Nebraska-Lincoln
Lincoln, NE 68509
Telephone: 402-474-3353
Qualifications: Entrepreneurship education program experience.

Rosemary Biggins, Business Development Specialist
Colorado Department of Agriculture
700 Kipling Street, Suite 4000
Lakewood, CO 80215
Telephone: 303-239-4122
Qualifications: Developed materials/programs on agriculture entrepreneurship, with emphasis in food services.

Lawrence Carter, Director
Cooperative Agricultural Program
Room 207 Perry-Paige Building
Florida A&M University
Tallahassee, FL 32307
Telephone: 904-599-3561
Qualifications: Work in areas of entrepreneurship for minorities.

Gregg Christensen, Director
Marketing Education
Nebraska Department of Education
P. O. Box 94987
Lincoln, NE 68509-4987
Telephone: 402-471-2295
Qualifications: Suggested by several individuals as a leader in entrepreneurship education.

Bill Crossman, Supervisor
Marketing Education
Washington Department of Education
P. O. Box 47200
Olympia, WA 98504-7200
Telephone: 206-753-2060
Qualifications: Has completed work in entrepreneurship curriculum.

John R. Crunkilton, Associate Dean and Director
Agriculture Technical Institute
Virginia Tech
Blacksburg, VA 24060
Telephone: 703-231-6503
Qualifications: Authority on curriculum and program development.

Dave Doerfert, Assistant Professor
Agricultural Education and Studies
201 Curtis Hall
Iowa State University
Ames, IA 50011
Telephone: 515-294-6950
Qualifications: Helped develop a financial management curriculum for agriculture.

Harold Doster
Department of Agricultural Economics
Purdue University
Kannert Building
West Lafayette, IN 47907
Telephone: 317-494-4250
Qualifications: Author, teacher, and researcher in agricultural entrepreneurship.

Randy Grissom, Director
New Mexico Small Business Development Center
Santa Fe Community College
P. O. Box 4187
Santa Fe, NM 87501-4187
Telephone: 505-438-1362
Qualifications: Active in entrepreneurship education, with some emphasis in agriculture.

Deloris Kluckman, Specialist
South Dakota State University
P. O. Box 2275A
Brookings, SD 57007-0097
Telephone: 605-688-4176
Qualifications: Instructional writer and resource person in entrepreneurship.

James Leising, Teacher Educator
Department of Agronomy and Range Science
University of California-Davis
Davis, CA 95616
Telephone: 916-752-1808
Qualifications: Leader in agricultural marketing and sales curriculum development.

Lawrence Libby, Chair
Field and Resource Economics Department
Room 1157 McCarty hall
University of Florida
Gainesville, FL 32311-0141
Telephone: 904-392-1826
Qualifications: Agricultural entrepreneurship education at the college level.

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Chicago, IL 60604
Telephone: 312-939-3665
Qualifications: Active in promoting entrepreneurship education.

Leonard Pokladnik
State Board for Vocational Education
State Capitol
600 E. Boulevard
Bismarck, ND 58505
Telephone: 701-224-4525
Qualifications: Leader of Youth Innovator Advisory Council for Marketplace '94.

Lance Rodan, Development Representative
Florida Department of Agriculture and Consumer Services
Fifth Floor Mayo Building
Tallahassee, FL 32399-0800
Telephone: 904-392-1826
Qualifications: Involved with agriculture entrepreneurship education in Florida.

Jack Sheehan, Associate
Illinois Institute for Entrepreneurship Education
28 E. Jackson, Suite 1220
Chicago, IL 60604
Telephone: 312-939-3665
Qualifications: Active in promoting entrepreneurship education.

Marshall Stewart, Director/Team Leader
Teacher Services
National FFA Organization
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Telephone: 703-360-3600
Qualifications: Nationally recognized leader in agricultural education.
Note: Beginning October 1, 1994, Stewart will become Executive Director of the National Vocational Agricultural Teachers Association, P. O. Box 15440, Alexandria, VA 22309, Telephone: 703-780-1862.

James Stone, III, Associate Professor
Vocational and Technical Education
University of Minnesota
1954 Buford Avenue
St. Paul, MN 55108
Telephone: 612-624-1795
Qualifications: Co-author of *School-Based Enterprise*.

Carol Thayer, Extension Specialist
Nebraska Cooperative Extension Service
3180 W. Highway 34
Grand Island, NE 68801-7279
Telephone: 308-385-6400
Qualifications: Recognized leader in small-scale entrepreneurship.

Kathleen Tweeten, Specialist
Area Leadership Development
North Dakota State University
116½ 1st Street, East
Jamestown, ND 58401
Telephone: 701-252-9030
Qualifications: Developed Youth Entrepreneur Curriculum for Extension Service.

Roger Uhe, Consultant
Illinois State Board of Education
100 North First Street
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Telephone: 217-782-4877
Qualifications: State leader in entrepreneurship; president of International Consortium of Entrepreneurship Education.

Objective 12
Proposal Development

The conduct of this national initiative in agriculture entrepreneurship education will require a number of products and services to develop, diffuse, and gain adoption

of entrepreneurship instruction in the agricultural education curricula. The following products and services represent discrete deliverables that could be produced:

- Communication Strategies and Products for the Infusion of Entrepreneurship Instruction in Agricultural Education - This area includes the development of brochures and other documents to create awareness among agricultural educators. News releases and other materials could be prepared for release in agricultural education as well as to the public media. Publicity could be provided for functions in agricultural entrepreneurship education.

- Curriculum and Program Implementation Guide for Education in Agriculture Entrepreneurship - This document would provide the overall structure for other developments in entrepreneurship education in agriculture. Developing the guide would include the specification of validated standards, competencies, and other program components.

- Curriculum Integration Models for Agriculture Entrepreneurship - This document would focus on the integration of agricultural entrepreneurship into social studies and other general education curricula. Strategies for achieving integration would also be suggested.

- National Conference on Agriculture Entrepreneurship - A national conference for leaders and other representatives of agricultural education should be held. This conference would focus on enhancing awareness of the importance of entrepreneurship in agriculture as well as begin the dissemination of products that have been developed. The planning and conduct of the conference would be provided by the partners in this initiative: Center for Entrepreneurial Leadership of the Ewing Marion Kauffman Foundation, The National Council for Agricultural Education, and the National FFA Foundation.

- Teaching Plans on Agriculture Entrepreneurship - This involves the development of detailed teaching plans correlated with the curriculum and program implementation guide, listed above.

- Student Materials on Agricultural Entrepreneurship - This involves developing one or more documents on agriculture entrepreneurship that are student-friendly. The organization, level, and other factors of presentation will be appropriate for the intended audience. Separate materials may be needed for high school, postsecondary school, and adult/young adult education.

- Development and Conduct of Model Inservice Workshops - This involves the development of transportable model inservice workshops for teachers, teacher educators, and supervisors. Key agricultural educators would receive training at the national or regional levels. Delivery would be expected within each state.

- Instructional Materials Network for Agriculture Entrepreneurship Education - This involves organizing a communications and training network among the developers of curriculum/instructional materials in agricultural education. State-operated laboratories as well as commercial producers would be involved.

- Entrepreneurship Infusion in Production Enterprise Instructional Materials - This involves developing materials that demonstrate the infusion of entrepreneurship education into instruction in the production enterprises, such as forestry, horticulture, and all farm-based production.

- Audiovisual Materials on Entrepreneurship for Agricultural Education - This would involve producing three video tapes on agriculture entrepreneurship using the preliminary story boards developed in this project.

- Educational Technology Developments - This involves developing compact disc interactive learning simulations and modules on entrepreneurship education in agriculture. Computer programs and instructional systems should also be developed.

- Development of Student Organization-Based Entrepreneurship Programs - This would involve the student organizations serving agricultural education students in developing and/or revising programs, contests, and awards as needed to motivate and recognize the accomplishments of students and teachers. Procedures for periodically evaluating all programs must be in place.

- National Teleconference on Entrepreneurship Education in Agriculture - This activity would involve the production of broadcast quality video materials that would be telecast via satellite systems throughout North America.

- National Entrepreneurship Education Research and Development Initiative - This would provide the impetus for demonstration projects, developmental activities, and research in the area of agricultural entrepreneurship education. This would be a small grant program to encourage local planning and study.

- National Clearinghouse on Agricultural Entrepreneurship - This would involve retaining the services of an individual or agency to solicit materials on agricultural entrepreneurship, prepare a database of the materials, and disseminate the findings throughout the profession of agricultural education.

National

Development and Infusion

Plan

Contents:

Needs in Agricultural Education

Strategies for Achieving Needs

National Development and Infusion Plan

ENTREPRENEURSHIP EDUCATION FOR AGRICULTURE

A Program to Enhance and Expand the Capacity of Agricultural Educators in Entrepreneurship Education

A proposed national development and infusion plan for entrepreneurship education in agricultural education in the United States is presented here. The needs and strategies are based on the stated and ascribed needs and interests of agricultural educators in the United States. The findings of the research in the focus groups, national survey of secondary agricultural educators, delphi study, and other areas have been used in preparing this plan. Further, the plan is intended to be congruent with the national trends and priorities in agricultural education.

Needs in Agricultural Education

The major needs in agricultural education as related to entrepreneurship education focus on the following areas:

1. Broad and comprehensive enhancement of instruction in agriculture entrepreneurship as a component of secondary and postsecondary programs of agricultural education is needed.

2. Strengthened capacity of teachers, teacher educators, supervisors, and other individuals in responsible positions to provide appropriate education in agriculture entrepreneurship is needed.

3. Materials are needed to guide the development and expansion of entrepreneurship education in agriculture in the preparation of teachers through pre-service and in-service education.

4. Materials are needed to guide the planning of curricula and agricultural education programs in secondary and postsecondary schools.

5. Materials are needed to enhance instruction and learning in agriculture entrepreneurship in secondary and postsecondary schools, including written and interactive materials.

6. Long-term planning, communication, development, and evaluation strategies are needed to assure that the goals of the initiative are being met.

Strategies for Achieving Needs

Strategies for achieving the identified needs for expanded education in agriculture entrepreneurship have been identified. These are specified on the basis of the analysis of the information gathered in the Planning Project on Entrepreneurship Education for Agriculture. The strategies are as follows:

1. A visionary leadership group for agricultural education should be established to provide overall stimulus for entrepreneurship education in agriculture.

- All levels and groups in agricultural education should be proportionately represented, including secondary and postsecondary teachers, adult/young adult teachers, teacher educators, and state supervisory personnel.

- Agribusiness, agricultural production, agricultural organizations, and other appropriate groups should be represented.

- Education groups outside of agricultural education should also be members of this visionary leadership group, with particular attention to social studies education.

- The group should be under the direction of The National Council for Agricultural Education and an appropriate name for the group selected later. (Note: In the past, The Council has used task forces for a similar role. A task force on entrepreneurship education in agriculture could serve a valuable role.)

- An individual of recognized leadership ability and status in agricultural education should serve as leader of the group.

2. Information and communication programs and materials on agriculture entrepreneurship are needed for all areas and levels of agricultural education. This involves the development of materials to create and expand the awareness of agricultural educators about entrepreneurship. Components of this include the following:

- Brochures or other pieces announcing an expanded emphasis on entrepreneurship education in agricultural education should be developed and disseminated.

- Briefings for leaders in agricultural education on needed enhancements in entrepreneurship education should begin soon to create a readiness among agricultural educators. Conventions and other programs can be used for this purpose. Editors of *The Agricultural Education Magazine, New Horizons, Vocational Education Journal,* and the *Journal of Agricultural Education* should be informed.

- A national teleconference or other vehicle should be used to provide information to a mass of agricultural educators. A series of such events may be planned to begin with awareness and move through implementation and adoption.

- News releases and other materials should be prepared and sent to publications that serve the professional interests of agricultural educators. These materials could be reprinted in state and local newsletters and other documents.

3. Training programs to more effectively prepare agricultural educators in entrepreneurship are needed. Components should address an overall revitalization of agricultural teacher education, including the following areas:

- Develop a pre-service and inservice model for agricultural teacher education, including materials development and training delivery.

- Develop transportable model workshops on entrepreneurship education in agriculture for national, regional, state, and local implementation.

- Provide stipends and other financial support for teacher education programs and participants in the entrepreneurship professional development activities.

- Organize a sub-task force for professional development as a part of the task force on entrepreneurship education in agriculture. The role of this group would be to develop strategies for promoting revitalized teacher education programs that include pre-service and inservice entrepreneurship education.

4. Materials to guide the implementation and expansion of entrepreneurship education for agriculture should be developed. These include curriculum guides that delineate the organization of the instruction and specify learning outcomes as well as instructional materials for use at various levels in agricultural education. Examples include:

- A curriculum and program implementation guide would serve a useful role in providing structure and planning emphases for expanded entrepreneurship education.

- A validated listing of standards, outcomes, and/or competencies in entrepreneurship education in agriculture should be developed and disseminated to agricultural educators.

- Integration models with curricula in other areas of agriculture and other areas of education, particularly social studies, should be developed.

- These materials should be disseminated through workshops, professional development meetings, conferences, curriculum networks, and other means.

5. Instructional materials should be developed to facilitate the delivery of instruction in entrepreneurship education in agriculture.

- A network of instructional materials developers and providers should be established to enhance the inclusion of entrepreneurship as appropriate in all materials. This would include publicly-supported institutional providers as well as private sector providers.

- Entrepreneurship should be integrated into enterprise-specific materials in production agriculture, forestry, horticulture, and other areas.

- Instructional materials to guide teachers in teaching the fundamentals of entrepreneurship should be developed. These include teaching plans and supporting materials.

- Audiovisual materials should be developed that teach basic concepts of entrepreneurship. These might accompany teaching plans that are developed. Video tapes, transparencies, compact disk materials, and other materials should be used.

- Develop simulations and other interactive mediated materials involving state-of-the-art instructional technology. This includes computer applications as well as networking with other users and providers using communication technology such as internet.

- Student-use materials should be developed on various areas of entrepreneurship in agriculture. These include attractively printed materials as well as other media.

- Programs to provide motivation and reinforcement in entrepreneurship in agriculture should be established in the various student organizations, including the FFA, Postsecondary Agriculture Students (PAS), National Young Farmers Educational Association (NYFEA), and Student National Agricultural Marketing Association (NAMA).

6. A national clearinghouse on agricultural entrepreneurship education should be established to coordinate development activities and communicate needs and interests.

- Such an office would be a valuable resource in encouraging the infusion of

entrepreneurship education in agriculture by being a recognized point of contact for information.

- Information about initiatives in entrepreneurship education in agriculture would be catalogued and made available to agricultural educators who were planning or delivering entrepreneurship education in agriculture.

- The clearinghouse could be a part of The National Council for Agricultural Education.

Supporting

Documentation

Contents:

Report of Delphi Study on Outcomes for Infusing Entrepreneurship into Agricultural Education

Report of Focus Group Findings

Report of a National Survey on Agriculture Entrepreneurship Instruction in Programs of Agricultural Education in the United States

Report of Activities in Entrepreneurship Education

- State Departments of Agriculture
- State Cooperative Extension Service Agencies
- State Offices of Economic Development
- State Superintendents of Education
- State Supervisors of Agricultural Education
- University Teacher Educators in Agricultural Education
- Groups, Foundations, and Agencies

Report of Delphi Study on

OUTCOMES FOR INFUSING ENTREPRENEURSHIP INTO AGRICULTURAL EDUCATION

Agricultural education leaders have recognized the role of entrepreneurship in a successful economy and its importance to our nation's future. As a result, The National Council for Agricultural Education entered into an agreement with the Ewing Marion Kauffman Foundation to initiate a project to infuse entrepreneurship into the agricultural education curriculum. The study reported here was designed to collect information using delphi procedures.

Methodology

The study used the delphi technique to identify recommended outcomes for an effort to infuse entrepreneurship into agricultural education. The delphi technique was developed at the Rand Corporation in the 1950s as a means of gaining the consensus of a group of experts about likely future events concerning national defense (Cornish, 1977). More recently, the delphi technique has been widely used in education as a means of identifying problems, defining needs, establishing priorities, and identifying and evaluating solutions (Borg & Gall, 1983). Experts have encouraged the use of this technique as a practical approach for forecasting future curriculum developments in education (Hostrop, 1975; Sutphin, 1981; Buriak & Shinn, 1988; and Chizari, 1990).

A group of 26 experts in agricultural education and entrepreneurship education were initially identified as possible participants in the study. Of those 26 individuals, 14 completed two rounds of the study and 13 completed all three rounds of the study. Attrition of participants is not uncommon in delphi studies.

In round one, the experts were asked to identify outcomes of infusing entrepreneurship into high school, postsecondary, and adult/young farmer programs in terms of both student outcomes and school, community, and teacher outcomes. These responses were condensed and combined where appropriate, based on the expertise of the researcher. The result was six sublists of outcomes that the group would consider recommending as important: 1) Secondary (student outcomes); 2)

Secondary (school, community, and teacher outcomes); 3 Postsecondary (student outcomes); 4) Postsecondary (school, community, and teacher outcomes); 5) Adult/Young Farmer (student outcomes);and 6) Adult/Young Farmer (school, community, and teacher outcomes).

In round two, the experts were sent the sublists of outcomes developed from round one and asked to decide whether or not the items should be included in the sublists and, if so, to rank them according to their relative importance. The result of this round was an overall ranking within the six sublists.

In round three, the experts were asked to rate each item in the six sublists as to its importance on a scale of 1 to 6 with 1 = not important and 6 = very important. The result of this round was elimination of items that did not receive a high rating for importance, regardless of their previous ranking. This round completed the Delphi procedure.

The following is a list of the recommended outcomes, separated into the six sublists. The items were included in the list based on a consensus of the panel of experts used in the study, and were ranked based on the panel's perception of their relative importance. (The list is also included in an appendix so as to be suitable for making photocopies for interested parties.) While not necessarily the only outcomes of an effort to infuse entrepreneurship into the agricultural education curriculum, these outcomes represent a basis for which decisions regarding curriculum content can be made.

Recommended Outcomes for Infusing Entrepreneurship into Agricultural Education

A. High School Outcomes

Students completing the program:

1. Can identify potential opportunities for entrepreneurship
2. Have developed problem-solving skills
3. Can communicate effectively
4. Understand the importance of product service and quality
5. Can develop a simple marketing plan (id clients/customers, advertise, set prices)

6. Can develop a clearly defined purpose for an enterprise

7. Understand differences in roles and rewards of entrepreneurs and managers

8. Have an increased interest in entrepreneurship and entrepreneurial activities

9. Can carry out inventory procedures (sources, needs, stocking, ordering & reordering)

10. Understand personal qualities necessary for successful entrepreneurship

11. Have developed agricultural sales skills/make effective sales presentations

12. Have developed team-building skills

13. Have knowledge of local business activities

14. Can make an effective sales presentation

15. Have developed computer skills

16. Have developed accounting skills (basic recordkeeping, basic reporting)

17. Can locate/make use of consultants

18. Understand capitalizing a new business (sources, needs, applications, requirements, risks)

19. Can develop a simple business plan

20. Can obtain licenses and permits

21. Can select a location and facility (buy or lease decisions)

The community, school, and teachers will see:

1. Improved school/community relations (links between businesses and schools)

2. Increased economic/business activity

3. Increased number of jobs available

4. Increased number of graduates who remain in local area

5. New services available for citizens

6. Increased placement rates

7. Increased diversity (age, background, experiences) in the business community

B. Postsecondary Outcomes

Students completing the program:

1. Can make decisions

2. Can communicate effectively

3. Understand capitalizing a new business (sources, needs, applications, requirements, risks)

4. Understand personal qualities necessary for successful entrepreneurship

5. Will demonstrate increased interest in entrepreneurship and entrepreneurial activities

6. Can be creative in solving problems

7. Can analyze business records

8. Can develop a comprehensive marketing plan (conduct market research and plan accordingly)

9. Can develop a comprehensive business plan

10. Have developed personnel administration/management skills

11. Can manage change

12. Understand differences in roles and rewards of entrepreneurs and managers

13. Have developed labor relations skills (write job descriptions, hiring policies, etc.)

14. Can carry out inventory procedures (sources, needs, stocking, ordering &

reordering)

15. Can select a location and facility (buy or lease decisions)

17. Can obtain licenses and permits

18. Can locate/make use of consultants

19. Can conduct performance reviews

20. Have developed accounting skills (recordkeeping, preparing financial statements, calculating cash flow, paying taxes, calculating management ratios)

The community, school. and teachers will see:

1. Improved school/community relations (links between businesses and schools)

2. More practical business orientation to the curriculum/focus on applied activities with real businesses or case studies

3. Increased diversity (age, background, experiences) in business community

C. **Adult/Young Farmer Outcomes**

Students completing the program:

1. Increased interest in entrepreneurship and entrepreneurial activities

2. Have improved management skills

3. Have developed a resource base for technical assistance

4. Understand differences in roles and rewards of entrepreneurs and managers

5. Increased knowledge of local business community

6 Developed advanced knowledge of cost structure of their business and accounting procedures

7 Identify secondary markets

8. Identify national and international markets

The community, school, and teachers will see:

1. Improved school/community relations (links between businesses and schools)

2. Increased economic/business activity

3. Increased economic activity

4. Greater utilization of community resources

5. Broadened focus from farm management to agribusiness opportunities

6. Increased number of jobs available

7. New services to citizens

8. Provide different levels of instruction based on student needs – basic for newcomers, advanced skill development for working entrepreneurs

9. Increased placement rates

10. Increased diversity (age, background, experiences) in business community

References for Delphi Study

Borg, W. R., & Gall, M D. (1983). Educational research: An introduction. New York: Longman.

Buriak, P., & Shinn, G. C (1988). Mission, initiatives, and obstacles to research in agricultural education: A national delphi using external decision making. Mississippi State: Mississippi State University, Department of Agricultural and Extension Education

Chizari, M. (1990) An examination of adult education in agriculture in the Southern Region of the United States by the use of the delphi technique. Unpublished doctoral dissertation. Mississippi State University, Mississippi State.

Cornish, E. (1977). The study of the future. Bethesda, MD: World Future Society.

Hostrop, J. R. (1975) Managing education for results. Homewood, IL: ETC Publications.

Sutphin, H. D (1981). Positions held by teachers, teacher educators, and state supervisors about selected national issues in agricultural education (Doctoral dissertation. The Ohio State University. 198l). Dissertation Abstracts International, 42. 4237A.

Report of

FOCUS GROUP FINDINGS

Focus group interviews were conducted at five sites in the United States. The sites were selected to provide geographic, agricultural, and educational representation. Agricultural educators from all levels were invited to participate, including secondary and postsecondary teachers, supervisors of agricultural education, school administrators, school counselors, agriculture teacher educators, and others. Efforts were made to assure representation of minority populations in the various groups.

A focus group interview guide was prepared for use in each group. This was developed to assure that the objectives of interviews were being met and that all groups responded to the same areas of questioning and discussion. A copy of the guide is presented on the following pages.

Groups were typically 8-12 people. Most met in conference rooms in a circle to enhance the flow of communication. The groups were typically held in conjunction with a conference or meeting that was underway. In some cases, refreshments were provided. All group numbers voluntarily participated. Each session was recorded on audio tape and careful written notes were made of the discussion.

Focus groups were held as follows: March 16, 1994, in Idaho Falls, Idaho, with 11 participants: March 20, 1994, in Greenville, South Carolina, with 14 participants; April 16, 1994, Albuquerque, New Mexico, with 10 participants present; June 27, 1994, in Madison, Wisconsin, with 14 participants; and July 12, 1994, in Blacksburg, Virginia, with seven individuals involved. All sessions were conducted by the planning project staff except for Idaho Falls, which was conducted by Dr. Gene Eulinger.

Summaries of the focus group sessions are presented on the following pages.

FOCUS GROUP INTERVIEW GUIDE

Prior to Meeting. Arrange (he room with chairs in a circle and with no tables or Other obstacles in the circle. Place a tape recorder near the group for maximum reception and minimum impairment of the flow of conversation. All barriers to communication should be removed. It might be appropriate to serve light refreshments. Greet the individuals as they arrive. learn their names, and have them sign their names on the register. Try to call all members by their first names.

Begin Meeting. Call the group into session by introducing the moderator (yourself), announcing the Overall purpose Of tile meeting, and having individuals introduce themselves. Try to have the group as relaxed as possible.

1. Introduce Yourself - "I am _____of_____ . I am currently assisting with an entrepreneurship in agricultural education planning project for The National Council for Agricultural Education. Our purpose here today is to explore ways of enhancing our commitment to free enterprise through entrepreneurship education in agriculture. "

2. Indicate Purpose - "The purpose of this meeting is to hear your ideas on entrepreneurship in agricultural education. I want you to be very open and honest. There is no structure to this group. Feel free to say what you think. The session will last a little over an hour. I have made arrangements to prevent interruptions and keep us on target. Your presence here is greatly appreciated. Thank you!"

3 Introductions - "You are the most important part of this session. I want to hear about you. We will go around the group and let each person give their name, professional position, school or employer, and any other brief background information." (Begin with one individual and let each speak.)

4. This Group - "Groups of agricultural education students, teachers. supervisors, and others will gather in several sites to discuss entrepreneurship in agricultural education. It is very important that we have a good cross-section of input for this activity. You are very special in the process. Again, be honest and share exactly how you feel on the topics discussed. No one has to comment on all topics: just those that you feel comfortable with. Remember, do not comment negatively on what any group member may say. We want your ideas! Relax and let's share and learn together."

Background. "The National Council for Agricultural Education and The National FFA Foundation have been funded by the Ewing Marion Kauffman Foundation to explore opportunities in agricultural education for expanded instruction in entrepreneurship. Agricultural educators have always felt that instruction in entrepreneurship was an important part of the curriculum. Some areas have

experienced greater success than others. Further. today's economy requires consideration of the best approaches available to develop entrepreneurship skills."

"You may be very familiar with entrepreneurship. I suggest we begin by discussing what 'entrepreneurship' means. Would someone volunteer one thought on its meaning?" (Allow a few minutes for several people to participate in the discussion. Summarize the points offered with emphasis on creativity in initiating and operating a business in free enterprise.)

"What is now going on in agricultural education to provide instruction in entrepreneurship?" (allow several to respond)

"What has worked best in entrepreneurship education in agriculture?"

"What are our new opportunities in entrepreneurship education in agriculture?"

"What approaches are needed to expand entrepreneurship education in agriculture?"

"What should be the outcomes of entrepreneurship education in agriculture as related
to:

-students

-teachers

-schools

-communities

"How can these outcomes be achieved?"

"What are the major obstacles in expanding entrepreneurship education in agriculture?"

"How can these obstacles be overcome?"

"What are the best approaches to use in expanding appropriate entrepreneurship education in agriculture?"

"What is needed if agricultural educators are to improve and expand on what they are doing in entrepreneurship education?"

-pre-service teacher education

-in-service teacher education

-instructional materials

-other areas

"What other thoughts do you have on expanding entrepreneurship education in agriculture?"

Closing. "The time for our session is nearing an end. I want to be sure that I have received your best information. Is there any thing more you would like to share?"

"Your help with this important area is greatly appreciated. The information you have provided will be very useful. I want to wish each of you the very best in your endeavors in life. We have now completed our work. Thank you for your help."

REPORT

Focus Group

March 16, 1994
Idaho Falls, Idaho

The focus group in Idaho Falls, Idaho, met at the National PAS Convention on March l6, 1994. Eleven delegates (4 males, 7 females) participated, including two national officers.

Dr. Gene Eulinger conducted the focus group session. After the introductory part of the Focus Group Interview Guide was read and the participants had introduced themselves, questioning began following the sequence in the Guide. The responses are summarized below.

QUESTION: What is now going on in agricultural education to provide instruction in entrepreneurship?

RESPONSES: Some entrepreneurship instruction is now provided through business management classes, with emphasis on owning a business or farm. Other areas where entrepreneurship education was provided include the FFA, supervised experience, and internships. The use of 4H Club activities beginning at 8 years of age was mentioned.

QUESTION: What has worked best in entrepreneurship education in agriculture?

RESPONSES: The items mentioned were: internships and agribusiness; bringing textbook and hands-on knowledge together; 4H projects; and integrating entrepreneurship education into the general curriculum as early as kindergarten.

QUESTION: What are our new opportunities in entrepreneurship education in agriculture?

RESPONSES: The new opportunities mentioned were: make young children aware of new farm or agriculture projects; start entrepreneurship classes: and use job shadowing with
students.

QUESTION: What approaches are needed to expand entrepreneurship education in agriculture?

RESPONSES: People in the Nation need a better understanding of the nature of agriculture. Presentations on agriculture can be made to groups that are outside of

agriculture. We need to try to change the image of agriculture/farming and make sure agriculture history is not forgotten. (Some students referred to the history as agricultural roots.)

QUESTION: What should be the outcomes of entrepreneurship education in agriculture as related to students, teachers, schools, and communities?

RESPONSES: Student outcomes may include the ability to generate their own entrepreneurship ideas; see how they work and try to improve; put thoughts to work; learn from mistakes; gain practical experience; develop interpersonal relations skills; goal setting; and develop management and marketing skills.

Teacher outcomes may include the willingness to let student try; to be patient; to develop a system of grading to complement students' performance: and to be concerned with the placement of students.

School outcomes included being willing to work with students and teachers on new ideas and new and different curricula: keeping agriculture classes in mind when setting up policy; being willing to help financially; and being open-minded about outside of class learning activities.

Community outcomes included the need to educate the citizens on the importance of agriculture in the community; using entrepreneurship to improve the economy of a community; and improving community support.

QUESTION: How can these outcomes be achieved?

RESPONSES: People in agriculture need to become more excited about agriculture and spread that excitement and PAS should become more involved educating the public about variety in agriculture.

QUESTION: What are the major obstacles to expanding entrepreneurship education in agriculture?

RESPONSES: Some of the obstacles mentioned were: the need to change the images of agriculture; the need for media coverage; the need to fund and provide resources for projects; and the need for funding of public schools in general.

QUESTION: How can these obstacles be overcome?

RESPONSES: We should showcase someone that has become successful through entrepreneurship: get media coverage; get full school support; and get alumni support.

QUESTION: What is needed if agricultural educators are to improve and expand on

what they are doing in entrepreneurship education in pre-service teacher education, in-service teacher education, instructional materials, and other areas?

RESPONSE: In pre-service teacher education, practical experience in entrepreneurship should be included as well as contact with successful people. Also, some type of resource guide is needed to help make contact with successful entrepreneurs. Inservice teacher education would also be beneficial, and resources are needed to help the teacher in teaching entrepreneurship classes. Other areas mentioned were: involve the teacher organizations, evaluation of teachers, use of Extension Service materials, and being open to new experiences.

With instructional materials, access to available technology was mentioned. Other items noted were satellite hookups, current texts, speakers on currents topics and issues, hands-on work with entrepreneurship materials, attend local agriculture shows, go on tours of business, and use entrepreneurs in developing materials.

QUESTION: What other thoughts do you have? Is there anything more you would like to share?

RESPONSES: Participants responded that they think hands-on experience is most important. They also stressed that teachers should continue their own education. More support from the local school administrators would be helpful. Grants and/or funding would encourage instruction in entrepreneurship in agriculture.

REPORT

Focus Group

March 20, 1994
Greenville, South Carolina

The focus group in Greenville, South Carolina, met at 7:00 p.m. in a conference room of the Hilton Hotel. Participants represented all four FFA regions and were predominantly teacher educators. State staff members and the Executive Director of the National Vocational Agricultural Teachers Association were also present. Of the 14 people present, two were female and three were minorities.

After the introductory part of the Focus Group Interview Guide was read and the participants had introduced themselves, questioning began following the sequence in the Guide. The responses are summarized below.

QUESTION: What is now going on in agricultural education to provide instruction in entrepreneurship?

RESPONSES: The major way entrepreneurship is taught is through supervised experience. In addition, the group named the following: leadership skills, agribusiness management skills, personal skills, contracts, cash flow, using financial forms, business law, activities to build self-confidence, and marketing products.

QUESTION: What has worked best in entrepreneurship education in agriculture?

RESPONSES: The items mentioned were: ownership SAE, horticulture, landscaping and lawn care, Junior Achievement, commodity futures marketing competition, sustainable agriculture, and cooperative ownership.

QUESTION: What are our new opportunities in entrepreneurship education in agriculture?

RESPONSES: The new opportunities mentioned were: partner with industry and using school-to-work programs, cooperative education, placement supervised experience has not had the goal of entrepreneurship, and a structure is needed to teach entrepreneurship because it is currently lacking.

QUESTION: What approaches are needed to expand entrepreneurship education in agriculture?

RESPONSES: First, entrepreneurship education needs to be a goal of agricultural

education programs. A key will be to convince teachers of what needs to be done. Need a variety of realistic activities with built-in success. New avenues are needed including alternative agriculture and carbohydrate economy (soy diesel).

QUESTION: What should be the outcomes of entrepreneurship education in agriculture as related to students, teachers, schools, and communities?

RESPONSES: Student outcomes may include the following: understanding of what entrepreneurship is, understanding marketing, evaluating risk against potential outcome, how to start a business, and how to prepare a business plan. The comment was made that it is not feasible to say that all students will become entrepreneurs.

Teacher outcomes may increase the status of the agriculture in the local school community.

School outcomes included a return by the school of something to the community.

Community outcomes stated were economic stimulation in the local community and contributions to the local economy.

QUESTION: How can these outcomes be achieved?

RESPONSES: Teaching tools are needed, including relevant instructional materials. Partnerships can be made with FFA alumni groups and local agribusinesses. Strategic planning based on economic development might work.

QUESTION: What are the major obstacles to expanding entrepreneurship education in agriculture?

RESPONSES: Teachers need to be trained to provide entrepreneurship education. The paradigm of SAE may conflict with entrepreneurship. SAE may be an obstacle.

QUESTION: How can these obstacles be overcome?

RESPONSES: Agricultural educators need to be motivated to provide entrepreneurship education--"kick butts and take names." Adults education will likely benefit most. Cooperatively develop a rural economic development plan with the Extension Service.

QUESTION: What are the best approaches to use in expanding appropriate entrepreneurship education in agriculture?

RESPONSES: Entrepreneurship education must be established as a program priority in agricultural education. Community colleges, small business development centers,

and high schools need to articulate programs.

QUESTION: What is needed if agricultural educators are to improve and expand on what they are doing in entrepreneurship education in pre-service teacher education, in-service teacher education, instructional materials, and other areas?

RESPONSES: With pre-service teacher education, the suggestions included using agriculture leadership classes, courses in entrepreneurship, class projects by groups of students in setting up an organization, help teachers develop skill in interpreting and applying what they know, and have students carry out projects.

With in-service teacher education, allow teachers to enroll in the same entrepreneurship classes as the undergraduate students, use distance learning, use new technologies with compact disks, and schedule in-service workshops.

With instructional materials, the following suggestions were made: video tapes with pauses for interaction, integrated multi-media case studies, instructional packages containing teaching plans, and use Decisions and Dollars as a beginning point.

Other areas mentioned included using alternative agriculture and specialized agriculture courses.

QUESTION: What other thoughts do you have? Is there anything more you would like to share?

RESPONSES: In considering expanding entrepreneurship education, we must assess what we have and build on that. Research is needed to identify characteristics of successful entrepreneurs, including their learning styles. Need to identify programs that already have successful efforts in entrepreneurship education. Entrepreneurship must be a coherent sequence of courses; not just one course.

REPORT

Focus Group

April 16, 1994
Albuquerque, New Mexico

The focus group in Albuquerque, New Mexico, was held in a conference room at the Hilton Hotel beginning at 1:30 p.m. on Saturday, April 16, 1994. The group met during the AVA Region IV Meeting. Ten individuals participated, with five being agriculture teachers, one a counselor, two state staff members, and two were local administrators. The individuals represented four states. One of the individuals was a female secondary local vocational administrator. Another individual taught on a Native American Reservation in New Mexico (Hopi and Navajo).

After the introductory part of the Focus Group Interview Guide was read and the participants had introduced themselves, questioning began following the listing of the questions in the Guide. The responses are summarized below.

QUESTION: What is now going on in agricultural education to provide instruction in entrepreneurship?

RESPONSES: Entrepreneurship education is largely accomplished through supervised practice. Government loan programs for students are being used. Students have a low interest in entrepreneurship--they like the jobs at McDonalds.

QUESTION: What has worked best in entrepreneurship education in agriculture?

RESPONSES: Simulated laboratory activities have worked good, such as those involving production in a horticulture facility. Hydroponics and custom fish harvesting have also been used. Must have good relationships with local businesses and not compete with them.

QUESTION: What are our new opportunities in entrepreneurship education in agriculture?

RESPONSES: New opportunities must be localized to the area served by the school. Examples offered included chili pepper production and ostrich hauling.

QUESTION: What approaches are needed to expand entrepreneurship education in agriculture?

RESPONSES: We must have good financial record keeping systems, including those that are computer-based. Creativity is needed to identify opportunities, such as pet pig production, contract ranch services, hunter guide services, camps, and wildlife opportunities.

QUESTION: What should be the outcomes of entrepreneurship education in agriculture as related to students, teachers, schools, and communities?

RESPONSES: Students currently don't understand entrepreneurship; they think only of going to work for someone. Students must be motivated and have skills in how to meet the public, work as team members, and cooperate with others in getting the work done. Students should feel that it is okay to be different and not fit into the mode of working for others.

Teacher outcomes included working closely with the families of students helping them to understand the meaning of entrepreneurship and how to become an entrepreneur. Teachers will be stronger leaders in the local community.

School should have an increased leadership role in the communities they serve.

Community outcomes included keeping people in business and helping identify and get established in new businesses such as weaving, wool work, rug making, and other ways of adding value to farm production.

QUESTION: How can these outcomes be achieved?

RESPONSES: The major item mentioned was the importance of involving the family in identifying, planning, and developing an entrepreneurship experience for students. A database of information on entrepreneurship opportunities is needed in each community. People need to be taught how to look at trends and develop appropriate new ways of benefitting from the trends. Several examples were listed including custom harvesting, off-farm services, and specialized agricultural consultants.

QUESTION: What are the major obstacles to expanding entrepreneurship education in agriculture?

RESPONSES: The major obstacle is the low readiness of students for instruction in entrepreneurship. Examples of that show success are needed. Funding is needed to develop programs and acquire materials. Current curriculum materials have little emphasis on entrepreneurship. Teachers lack knowledge of what to do.

QUESTION: How can these obstacles be overcome?

RESPONSES: Broad approaches should be developed at the state or national level.

These should allow local adaptation to student and community needs. The approaches must help students develop self-confidence and the ability to overcome failure. Students need to be able to analyze situations and anticipate problems ahead of time. Opportunities that have a low chance of success should be avoided. Student backgrounds have a lot to do with how they are willing to take risk.

QUESTION: What are the best approaches to use in expanding appropriate entrepreneurship education in agriculture?

RESPONSES: New approaches are needed that reflect modern situations. Instruction needs to begin in the elementary and middle schools. Approaches that involve the integration with academics are likely to be most useful.

QUESTION: What is needed if agricultural educators are to improve and expand on what they are doing in entrepreneurship education in pre-service teacher education, in-service teacher education, instructional materials, and other areas?

RESPONSES: Undergraduate students should take more courses in agricultural economics, economics, and marketing.

With in-service teacher education, the importance of workshops to help teachers develop skills in entrepreneurship was stressed. Teachers also need industry experience so that they are able to relate education to situations that exist in the community.

Instructional materials that included computer models that simulate entrepreneurship are needed. These must include a simulate agribusiness and the opportunity for students to make decisions. Agriculture teachers need budgeted funds to buy instructional materials.

Other areas of need included how teachers can be creative in doing more with fewer resources. Leadership is needed from the state and national levels for entrepreneurship education in agriculture. Adults and parents must be informed.

QUESTION: Is there anything more you would like to share?

RESPONSES: We need to help students, parents, and all citizens understand that agriculture is a large, multi-faceted business that is vital to the welfare of the United States.

REPORT

Focus Group

June 27, 1994
Madison, Wisconsin

The focus group in Madison, Wisconsin, met at 5:00 p.m. in the La Crosse Room of the Holiday Inn-West, Madison. It was held after a general session of the summer meeting of the Wisconsin Association of Vocational Agriculture Instructors. Fourteen teachers participated, with four being female.

After the introductory part of the Focus Group Interview Guide was read and the participants had introduced themselves, questioning began following the listing of the questions in the Guide. The responses are summarized below.

QUESTION: What is now going on in agricultural education to provide instruction in entrepreneurship?

RESPONSES: Entrepreneurship is taught through supervised experience. Need to go beyond the notion of a project.

QUESTION: What has worked best in entrepreneurship education in agriculture?

RESPONSES: Four items were mentioned: Supervised experience, simulation in horticulture programs using greenhouses, exploration of entrepreneurship at the middle school level, and fruit sales and other fund raisers.

QUESTION: What are our new opportunities in entrepreneurship education in agriculture?

RESPONSES: Aquaculture using both tanks and ponds; some conversion of dairy barn facilities to aquaculture may be underway. The summer is an excellent time to provide hands-on entrepreneurship education. Pick-your-own berries and fruit holds promise is some locations.

QUESTION: What approaches are needed to expand entrepreneurship education in agriculture?

RESPONSES: Value-adding to products that are produced on farms. Agriscience instruction using waste water to grow crops hydroponically. Important to work on the self-concept of students so that they will take risks.

QUESTION: What should be the outcomes of entrepreneurship education in agriculture as related to students, teachers, schools, and communities?

RESPONSES: Student outcomes may include the following: transferability of skills; lifelong skills, such as record keeping; using marketing surveys; futuring; ability to analyze problems and needs; responsibility skills; financial accountability; and risk management skills.

Teacher outcomes may result in great commitment by the students to agriculture and gives meaning to education.

School outcomes were said to be the same as the teachers.

Community outcomes stated were to keep communities stronger and shows that there are ways other than the lottery to earn money.

QUESTION: How can these outcomes be achieved?

RESPONSES: The major focus was on the use of special projects, including school-based lotteries.

QUESTION: What are the major obstacles to expanding entrepreneurship education in agriculture?

RESPONSES: The teachers indicated a need for ideas about what the students can do with limited resources. They also need ways to get students to come up with their own ideas. Alumni grants and FmHA youth loans may be useful.

QUESTION: How can these obstacles be overcome?

RESPONSES: Find ways to help students understand the long-term benefits of entrepreneurship. Help them to deal with risk-taking. It's hard to overcome "McDonalds jobs" at $5 per hour.

QUESTION: What are the best approaches to use in expanding appropriate entrepreneurship education in agriculture?

RESPONSES: The majority of high school students may not be ready for entrepreneurship education. Simple video tapes that explain entrepreneurship and show real success situations would be useful.

QUESTION: What is needed if agricultural educators are to improve and expand on what they are doing in entrepreneurship education in pre-service teacher education, in-service teacher education, instructional materials, and other areas?

RESPONSES: With pre-service teacher education, the suggestions included using credit classes, workshops, and teacher associations.

With in-service teacher education, the suggestions were to help teachers feel that entrepreneurship education is useful, make funds available to buy materials and support risk-taking, and provide materials and services free to the school districts.

With instructional materials, the following suggestions were made: the materials need to be designed by the people who are going to use them, need overhead transparencies, and tie into the Decisions and Dollars program and the materials from CORD.

Other areas of need included making changes long-term, use a positive approach to enhance what we are doing, need a teacher orientation (not philosophy), and should be user friendly.

QUESTION: Is there anything more you would like to share?

RESPONSES: Rural economies need to use entrepreneurship education. School administrators need to be aware of needs.

REPORT

Focus Group

July 12, 1994
Blacksburg, Virginia

The focus group in Blacksburg, Virginia, met at 7:00 p.m. in Conference Room A of the Donaldson Brown Continuing Education Center on the Campus of Virginia Tech. The annual summer conference of the Virginia Vocational Agriculture Teachers Association was underway. Conflicts with other activities resulted in another less formal session on July 13. A total of seven teachers was included.

After the introductory part of the Focus Group Interview Guide was read and the participants had introduced themselves, questioning began following the listing of the questions in the Guide. The introductory part of the Interview Guide was not read in the session on July 13. The responses are summarized below.

QUESTION: What is now going on in agricultural education to provide instruction in entrepreneurship?

RESPONSES: We don't know what entrepreneurship is about. Not much is directly being taught about entrepreneurship in Virginia.

QUESTION: What has worked best in entrepreneurship education in agriculture?

RESPONSES: Supervised experience was the major area as working with agricultural education in Virginia. Without supervised experience, FFA chapters struggle. New approaches are needed with increased emphasis on agriscience and new directions in how supervised experience is provided.

QUESTION: What are our new opportunities in entrepreneurship education in agriculture?

RESPONSES: FFA contests and programs were mentioned as being new opportunities. These will need to be developed by revising existing activities or developing new activities. An entrepreneurship activity is the best way to get started. New and better approaches to record keeping are needed.

QUESTION: What approaches are needed to expand entrepreneurship education in agriculture?

RESPONSES: Agriscience in the curriculum presents a new challenge to teachers in

entrepreneurship education. Use tanks for aquaculture crops, including ornamental fish which don't require much space or investment.

QUESTION: What should be the outcomes of entrepreneurship education in agriculture as related to students, teachers, schools, and communities?

RESPONSES: Students should be more supportive of agricultural education once they graduate from high school. The students experience needed activities in the work environment and how to make money. The work ethic is important.

Teacher outcomes included more creative involvement in the economic development of the community.

School outcomes would result in a strengthened position of the school in the community.

Community outcomes included keeping young people in their home communities as adults.

QUESTION: How can these outcomes be achieved?

RESPONSES: The major approach discussed involved expanding and improving the record keeping system that is used. New approaches are needed.

QUESTION: What are the major obstacles to expanding entrepreneurship education in agriculture?

RESPONSES: Low emphasis on record keeping in agricultural and lower standards across all of education were stated as obstacles.

QUESTION: How can these obstacles be overcome?

RESPONSES: The use of computers should be encouraged and expanded. Materials should be developed that use computer technology in entrepreneurship education. These programs should be easier to use than written records.

QUESTION: What are the best approaches to use in expanding appropriate entrepreneurship education in agriculture?

RESPONSES: Competency-based instruction is the best approach in education in entrepreneurship education. A practice set or simulation is needed for students to go through all of the experiences of establishing and running a business. This can be through computer applications and workbooks.

QUESTION: What is needed if agricultural educators are to improve and expand on what they are doing in entrepreneurship education in pre-service teacher education, in-service teacher education, instructional materials, and other areas?

RESPONSES: No suggestions were offered for pre-service teacher education.

With inservice teacher education, the major suggestion was to develop a new program on entrepreneurship education and provide inservice education on how to use it.

With instructional materials, the following suggestions were made: need simple, high-quality textbook; a practice set should accompany the textbook; design the materials at the sixth to eighth grade levels; use short chapters and activities; and use many illustrations. Video tapes that are economical are needed. One national record book should be used. Structure materials so that they can be used in year-long, semester, and unit approaches to instruction. (Depending on the kind of diploma, students are required to have either 21 or 23 Carnegie units to graduate from high school. Many of the courses are required. Student scheduling and counseling are important in order to have a good enrollment in agricultural education classes.)

Other areas of need included integration with appropriate academic classes as well as technical areas of agriculture and the use of tech prep approaches.

QUESTION: Is there anything more you would like to share?

RESPONSES: Grants are needed from the national level to help start education entrepreneurship education in agricultural education similar to business incubators. All areas of vocational education should collaborate. Competition with other vocational programs needs to be reduced.

Report of a National Survey
on
AGRICULTURE ENTREPRENEURSHIP INSTRUCTION IN PROGRAMS OF AGRICULTURAL EDUCATION IN THE UNITED STATES

INTRODUCTION

Agricultural education programs are offered in 7,600 secondary schools in the United States (Lee, 1994), with an estimated 625,000 full-time students enrolled in the classes (The National FFA Foundation, 1993). An estimated 11,000 agriculture teachers are involved with these programs. In addition, a smaller number of secondary schools offer education in and about agriculture using other instructional delivery approaches such as science and social studies.

The extent of instruction in entrepreneurship in agriculture is unknown. Instructional materials commonly found in agricultural education typically have little content on entrepreneurship. A review of state curriculum guides shows that most states include no specific instruction in entrepreneurship in the guides for agricultural education. Most states have some emphasis on business procedures associated with managing an agribusiness or farm.

Traditionally, programs of agricultural education have been planned locally using information about the local community served by the program as a major input in the program development process. In recent years, programs have taken new directions. State-level curriculum guides and program development information have increasingly been used in program development. In addition, today's students bring different situations into the learning environment. These also impact the delivery of all education, including agricultural education. Opportunities for students to engage in entrepreneurial activities often appear to be diminishing. Further, many educators feel that students do not have the self-confidence to be entrepreneurs.

Meeting the expanding needs of agricultural educators in planning and carrying out local programs that include instruction in entrepreneurship requires close observation of the programs that are being delivered. Providers of information are not only sources of innovation, but they must respond to the needs of the local

programs. These needs comprise the market for innovators and producers of agricultural education information as well as teacher education, supervision, and others with interests in local agricultural education programs.

Purpose

The overall purpose of the research reported here was to determine the extent to which entrepreneurship is taught in the secondary programs of agricultural education in the United States. Determining the environment in which local secondary programs of agricultural education are carried out and the use of selected practices in the delivery of these agricultural education programs will help identify strategies for incorporating entrepreneurship education.. The information will be useful in planning ways to more effectively and efficiently meet the needs of the students, teachers, and others involved with local agricultural education programs. Particular emphasis was on instruction in entrepreneurship in agricultural education as related to student needs, instructional processes, available resources, and future needs and challenges facing the agricultural education program in incorporating such instruction.

Objectives

The objectives of the research reported here were:

1. To determine the scope of current instruction in entrepreneurship in secondary agricultural education programs, including the classes where it is offered and perceived needs for entrepreneurship education.

2. To determine the perceived alternatives for improving instruction in entrepreneurship in agricultural education.

3. To determine the instructional resources that are available and used in the conduct of local programs in entrepreneurship education.

4. To determine the perceived future needs and challenges of agricultural education teachers in the local schools.

PROCEDURES

The procedures used in the conduct of this research involved the collection of information from agricultural education teachers in the secondary schools throughout the United States. Quantitative survey procedures were used to collect, analyze, and interpret information. Some qualitative procedures were used in the compilation and analysis of certain responses.

Background

The procedures used in this study were designed to gather information from a representative cross-section of agricultural education teachers in the secondary programs. Similar procedures have been used in previous studies to gain valuable insight to aid in problem solving and better serving the needs that exist in local programs. Further, the procedures followed represent appropriate research and evaluation design and methodologies, such as the Total Design Method of Dilman (1978), the evaluation processes of Royse (1992), and the social measurement methods of Miller (1991). Methods were also selected congruent with the United States General Accounting Office (1986). Individuals involved in the conduct of the study have performed research on related topics with agricultural education in the past (Lee, 1994; Lee, 1992a and Lee, 1992b).

Population and Sample

The population for this study consisted of all public secondary schools in the United States with agricultural education programs. This included all fifty states as well as territories. A printout containing 8,028 secondary schools with agricultural education was obtained from the National FFA Center in collaboration with the U.S. Department of Education. The names of teachers were usually listed following the names of the schools. The list was reviewed to delete any duplications and schools which no longer had agricultural education. Non-secondary schools, such as universities and community colleges and those from outside the United States, such as Canada, appearing on the list were purged. Several state agricultural education officials were contacted to verify the listing. Local schools were called to verify programs and the names of teachers. The Fortieth Edition of the Agricultural Educators Directory (1993) was also used to help verify the list of schools with

agricultural education and identify the teachers with the schools. The final list contained 7,886 schools. (Note: This number is larger than the number used by personnel at the National FFA Center when giving the number of schools with agricultural education and FFA chapters in the United States. Some of the schools on the list do not have FFA chapters but do have agricultural education.) Also, The National Council for Agricultural Education (1993) reported that 417,000 students are members of the FFA. This represents a membership of 66.72% of the 625,000 students enrolled in agricultural education in the secondary schools.

A sample of schools was selected from the printout using scientific selection procedures. Krejcie and Morgan (1970) indicated that a sample of 367 is appropriate for a population of 8,000. To assure an adequate number of respondents (367), a sample of 537 teachers was selected. Over sampling was used to compensate for non-response.

The sample was drawn by using a random-entry, systematic selection process. The selection involved dividing the proposed sample size of 537 into the number in the population (7,886), which resulted in 14.69 which was rounded to 15. This meant that one-fifteenth of the schools should be included in the sample. The first 15 schools on the list were numbered from 1 to 15. A table of random numbers was used to determine the first school to be included. Every fifteenth school thereafter on the list was selected. In those schools with more than one teacher, the first name on the list of teachers was selected for the study. If validation procedures revealed that the teacher was no longer teaching, the next name on the list was used. All names and addresses were placed in a computer database for ease of use and precision in managing the study. A printout of all members of the sample was made and each was assigned a three-digit identification number. This number was placed on the return envelopes to determine respondents and non-respondents. No information was recorded using the number nor was the number placed on the survey instrument.

Instrumentation

All information was collected using a mail survey form, also known in this study as a questionnaire, entitled "Agriculture Entrepreneurship Study." Procedures followed in the development of the survey form are described here.

The survey form was constructed with questions in two major areas parallel to the objectives for the study. Procedures described by Sudman and Bradburn (1983) were observed to the extent possible in the construction of the questionnaire.

The first area was entitled Current Instruction. This area was comprised of nine questions designed to gather information about the environment in which local programs of agricultural education may or may not be including entrepreneurship

instruction. This included information about the classes offered, inclusion of entrepreneurship instruction, other classes that teach entrepreneurship, and level of skill that students need in entrepreneurship.

The second area on the questionnaire was entitled Alternatives for Improving Entrepreneurship Instruction in Agricultural Education. The five questions here focused on what teachers feel is needed in entrepreneurship education and the technical areas of agriculture where the instruction could best be incorporated.

The third area was comprised of one optional question. It allowed respondents the opportunity to offer their suggestions on how entrepreneurship education can be expanded in agricultural education.

The questions were designed to collect the information essential in achieving the objectives of the study. Most questions in Part One required the respondents to provide information by writing responses. In Part Two, the respondents could check alternatives that applied in their particular programs. Opportunities were always provided as appropriate for individuals to offer information pertaining to the questions related to their programs.

Drafts of the instrument were reviewed by the Management Team of the Entrepreneurship Education for Agriculture Project. This group is comprised of distinguished entrepreneurship educators and agricultural educators, including supervisors. The instrument was printed on light gray-colored paper in a standard type face. The instrument was laid out to keep it on one sheet of paper using both the front and back. Members of the Management Team were asked to review drafts of the instrument in terms of how it would be viewed and completed by the intended respondents.

A sample copy of the instrument is presented in Appendix A.

Data Collection

The information was collected by mailing the questionnaires to 537 agricultural educators in the U.S. Procedures were used to provide the maximum efficient return of completed, usable instruments (Dilman, 1978).

A cover letter was prepared on Alabama A&M University stationery and signed by Willie Cheatham of the University and Larry D. Case, Advisor to the National Council for agricultural education. The letter was designed to describe the importance of the study and solicit the cooperation of the respondents by completing and returning the instrument. The date by which the instrument should be returned was carefully specified in the letter. The return address on the letter was to the

Alabama A&M University, P. O. Box 323, Normal, AL 35762. A sample copy of the letter is presented in Appendix B.

A postage-attached return envelope was enclosed with each instrument. A number 9 envelope was used because it would fit into the number 10 mailing envelope without folding. The code number for each teacher in the sample was placed on the return envelope for use in documenting the identity of the respondents. (This number was not on the questionnaire; therefore, the findings could not be identified with a particular individual.)

The number 10 mailing envelope was properly prepared with the teacher's address, return address to Alabama A&M University. This identification on the envelope was used to encourage participation in the study.

The instrument was mailed on May 7, 1994. The cover letter requested that the completed instrument be returned within 9 days. A reminder postcard was sent to all 537 individuals on May 9, 1994. (See Appendix C for a sample of the postcard.) In these cases, individuals called after getting the card indicating that they had not received the instrument. Another mailing was sent to them. The final cutoff date for receiving responses for use in the study was July 15, 1994.

Data Analysis

Data analysis involved both quantitative and qualitative procedures. Careful review of the responses and professional judgement were needed on some of the open-end questions to classify and cluster responses. All information was hand tabulated and calculations were made using electronic calculation equipment. Appropriate frequencies, means, ranges and percentages were calculated for the questions.

FINDINGS

Responses were received from 209, or 38.92%, of the 537-member sample. Responses to selected questions were not usable on a number of the questionnaires. Even though the return rate was below 367 (the number specified by Krejcie and Morgan (1970) as needed for the population), non-respondent follow-up was not used because of the deadlines that had to be met with the study. Previous experience with research with this group would indicate that findings would not vary if a higher percentage of individuals had responded even though the response rate was below the normally acceptable 80%. (Non-respondent follow-up is typically practiced when the non-response rate is more than 20%.) Previous studies of this population by the researcher had a higher response rate, with the most recent being 73.18% (Lee, 1994). Further, comparing early and late responses on previous studies has resulted in no perceptible differences between the early respondents and the late respondents.

(A previous study also completed in 1994 (Lee) with this same population, found that the schools averaged 1.44 teachers per school, with three-fourths of the schools having only one agriculture teacher. The average number of students enrolled per school in agriculture classes was 99.14. The average enrollment per agriculture teacher was 66.20 students. The enrollment per agriculture teacher was 75.6 in single-teacher programs and 59.59 students per teacher in multiple-teacher programs. The findings of the earlier research can be readily ascribed to this study.)

The findings of this study are reported in three major areas. The areas are parallel with the objectives for the study and the major sections of the questionnaire and clusters of questions.

Part One: Current Instruction

Nine questions were used to gain information about the current instruction in entrepreneurship in programs of agricultural education.

Inclusion of Entrepreneurship Instruction in Agricultural Education

The respondents were asked to answer the question, "Do you currently include instruction in entrepreneurship in your agricultural education program?" by checking "yes" or "no."

Of the 209 teachers responding in the study, all provided information for this question. Nearly two-thirds, 131 or 62.68%, responded "yes," while 78 or 37.32% responded "no." (Note: This finding would tend to disagree with previous studies of the same population where entrepreneurship was not mentioned to any appreciable extent (Lee, 1994).

Agriculture Classes Used to Teach Entrepreneurship at Your School

The respondents were asked to write the answer to the question, "What agriculture classes or subject areas are used to teach entrepreneurship?" All 131 respondents who taught entrepreneurship in agriculture indicated one or more classes or subject areas. The responses were consolidated into 10 areas, as shown in Table 1.

The class/subject most frequently listed was "agriculture classes by numbers," which indicates that instruction is included but no connection is established with specific subject matter. Agribusiness/agribusiness management was second in order of the number of times listed and was followed by horticulture and supervised experience. Several other areas were listed as being used to teach entrepreneurship.

Table 1
Agriculture Classes or Subject Areas
Used to Teach Entrepreneurship
(n = 131)

Subject	Number of Times Listed
Agriculture Classes by Numbers	59
Agribusiness/Agribusiness Management	45
Horticulture	34
Supervised Experience	28
Agriscience	19
Animal Science	17
Plant and Soil Science	12
Farm Management	10
Agricultural Mechanics	9
Forestry	5

All respondents who had entrepreneurship instruction answered this question. Others subjects listed were landscaping, exploratory agriculture, and agricultural technology.

Instructional Materials Used in Teaching Entrepreneurship

The respondents were asked to indicate the instructional materials they use in teaching entrepreneurship. The question was: What instructional materials do you use in entrepreneurship? They were asked to list three and include information on additional paper, as needed.

Of the 131 teachers who provided instruction in entrepreneurship, 126 listed one or more instructional materials. More people listed textbooks than any other item. Local resource people and personally developed materials were also frequently used.

Table 2 provides more detail on the items listed.

Table 2
Instructional Materials Used to Teach Entrepreneurship
(n = 126)

Materials	Number of Times Listed*
Textbooks	48
Local People or Materials, Field Trips, Interviewing, Guest Speakers	35
Personal Materials	35
Farm and Ranch Business Management Guide	23
IMS Materials	22
State Curriculum Guides	17
SAE Handbooks and Projects	16
Doans Farm and Ranch Management Guide	9
Videos	8
John Deere Farm and Ranch Management Guide	8
Farm Cooperative Materials	7
FFA Materials	7
Other	16

*Respondents were asked to list three instructional materials. Other materials listed were booklets, pamphlets and magazines, research references, materials from business department, bootstrap business, Chicago Mercantile Board, Martin's Starting Your Own Business, and computer programs.

Reasons Why Entrepreneurship Is Not Taught

The 209 individuals responding to the questionnaire were asked to indicate reasons why instruction in entrepreneurship wasn't provided. The question was: List the main reason(s) why instruction in agriculture entrepreneurship may not be included in an agricultural education program. The individuals could list as many reasons as they wished and include information on additional paper. Responses were provided by 163 individuals.

Lack of time of was listed by more individuals than any other reason why entrepreneurship education wasn't provided. This was closely followed by a lack of materials. Student interest and lack of teacher knowledge and training were also listed. Overall, the reasons demonstrate a lack of awareness of the need for entrepreneurship education and of the resources to provide the instruction.

Table 3 provides more details.

Table 3
Main Reasons Instruction in Entrepreneurship
May Not Be Included in Agricultural Education Program
(n = 163)

Reason	Times Listed
Lack of Time	35
Lack of Appropriate Books, Materials and Curriculum	29
Lack of Student Interest	17
Lack of Teacher Knowledge/Training	16
Lack of Flexibility in Program	11
Lack of Start-up Money	8
Taught in Other Class/Department	7
Lack of Facilities	5
Lack of School Administration Support	3

*Respondents could include any number of reasons. Others reasons listed were "now teach other classes," "new teacher and developing entire program," "it should have been and I will try to add it next year," "it should be included," "teacher too lazy," "teacher does not wish to teach it," and "always advises students to work for someone else for two years before trying to go in business for themselves."

Entrepreneurship Taught in Classes Other Than Agriculture

The respondents were asked to indicate if classes other than agriculture provided instruction in entrepreneurship. The question was: Do classes other than agriculture teach entrepreneurship at your school? Of the 209 respondents, 206 provided information to answer this question. The respondents were asked to check "yes" or "no;" however, eight (3.88%) wrote in that they didn't know. "Yes" was marked by 111 (53.88%) and "No" was marked by 87 (42.23%) of the respondents.

Non-Agriculture Classes in Which Entrepreneurship Is Taught

Of the 111 respondents who are in schools where non-agriculture classes teach entrepreneurship, 107 indicated one or more other classes where the instruction is provided. Business classes were by far the most frequently listed. Others included marketing education, economics, home economics, technology, and all vocational areas. Student organizations were also listed by a few respondents.

Table 4 provides more details.

Table 4
Names/Subjects of Classes Other Than Agriculture
Used to Teach Entrepreneurship
(n = 107)

Subject	Number
Business Education	60
Marketing Education	24
Economics	12
Home Economics	12
Technology Education	6
All Vocational Areas	5

The respondents also listed two vocational student organizations. The organizations listed and number listing them are Future Business Leaders of America (FBLA) (3) and Distributive Education Clubs of America (DECA) (5). Junior Achievement was listed by three individuals.

Entrepreneurship Skill Needed by High School Graduates

The respondents were asked to indicate the amount of skill high school graduates need in entrepreneurship. The question was: How much skill in entrepreneurship do most high school graduates need? They were asked to indicate this for all graduates as well as graduates who had been enrolled in agriculture classes. Three alternatives were available for selection: no skill, some skill, and highly skilled. Of the 209 respondents, 199 selected an answer for the question. The vast majority of students need some skill in entrepreneurship upon graduation from high school. Agriculture graduates were said to need more skill. The findings on this question are shown in Table 5.

Table 5
Skill Needed in Entrepreneurship
by High School Graduates
(n = 199)

	All Graduates		Agriculture Graduates	
	Number	Percent	Number	Percent
No Skill	5	2.50	2	1.01
Some Skill	159	79.90	107	53.76
Highly Skilled	35	17.60	90	45.23
Total	199	100.00	199	100.00

Entrepreneurship Skill Possessed by High School Graduates

The respondents were asked to rate the amount of skill possessed by high school graduates. The question was: How much skill in entrepreneurship do most high school graduates have? The respondents were asked to rate the amount of skill as no skill, some skill, and high skill. Of the 209 respondents, 201 provided answered this question.

The majority of graduates finish high school with some skill or high skill in entrepreneurship. The students who took agriculture were rated as having higher skill in entrepreneurship. (Note: The instrument had a wording problem that could have resulted in response error on this question. After investigating the situation, the

researchers concluded that the error had little or no effect on the findings of the question.) Table 6 presents the findings on this question.

Table 6
Skill in Entrepreneurship
High School Graduates Have
(n = 201)

	All Graduates		Agriculture Graduates	
	Number	Percent	Number	Percent
No Skill	66	32.84	19	9.45
Some Skill	124	61.69	153	76.12
Highly Skilled	11	5.47	29	14.43
Total	201	100.00	201	100.00

Enrollment in Agricultural Education

The respondents were asked to indicate the number of students enrolled in the agriculture classes at their schools. Of the 209 respondents, 201 indicated student enrollment. The total number of students enrolled was 19,942. The number enrolled ranged from 9 to 600. The average enrollment per school was 99.21 students.

Part Two: Alternatives for Improving Entrepreneurship Instruction in Agricultural Education

Part Two of the instrument gathered information on alternatives for improving entrepreneurship instruction in agricultural education. Five questions were used in Part Two.

Needed Teaching Materials

The respondents were asked to indicate the teaching materials that they needed the most to improve instruction in entrepreneurship. The question was: What teaching

materials are needed? Six areas of need were listed. A five-point rating scale was used, with 1 = low and 5 = high. The number of individuals responding on the six areas ranged from 201-205. The respondents were also asked to indicate with an "X" the one area of greatest need.

The responses allowed the six areas of needed teaching materials to be divided into two clusters. Curriculum guides, teaching plans, and student-oriented materials had the highest ratings. Teacher reference materials, computer-based programs, and video tapes had the lowest ratings. Table 7 presents the findings on needed teaching materials.

Table 7
Rating of Needed Teaching Materials on Entrepreneurship in Agricultural Education

	LOW 1	2	3	4	HIGH 5	n	MEAN RATING	GREATEST NEED
Curriculum guides that include agriculture entrepreneurship	3	13	27	61	99	203	4.18	15
Teaching plans on agriculture entrepreneurship	1	8	29	60	104	202	4.28	16
Student-oriented materials on agriculture entrepreneurship	0	3	28	72	102	205	4.33	14
Teacher reference materials on agriculture entrepreneurship	1	12	33	65	90	201	4.15	5
Computer-based programs in agriculture entrepreneurship	9	12	50	57	77	205	3.88	2
Video tapes on agriculture entrepreneurship	4	16	40	55	89	204	4.02	6

Needed Teaching Strategies

The respondents were asked to rate five areas of teaching strategies that were most needed to improve instruction in entrepreneurship. The question was: What teaching strategies are most needed to improve entrepreneurship instruction? A five-point rating scale was used, with 1 = low and 5 = high. The number of individuals responding ranged from 203-209. The respondents were also asked to indicate with an "X" the one area of greatest need.

Inservice education of the teacher was by far the greatest need. This item had the highest mean rating as well as was marked as the area of greatest need more times than all of the other areas combined. A summary of the findings is presented in Table 8.

Table 8
Teaching Strategies Most Needed To Improve Entrepreneurship Instruction

	LOW 1	2	3	4	HIGH 5	n	MEAN RATING	GREATEST NEED
FFA Awards/Contests on Agriculture Entrepreneurship	8	14	60	67	54	203	3.47	8
Examples of Student Teamwork Activities	0	14	49	91	55	209	3.89	9
Examples of Student Organization Activities	1	11	62	92	38	204	3.76	5
Inservice Education for the Teacher	3	8	33	70	91	205	4.16	32

Interest of Agricultural Educators

When asked, "In general, how interested are agricultural educators in materials that open new opportunities in agriculture entrepreneurship?" The respondents could select from three alternatives: no interest, some interest, and high interest.

Of the 209 respondents, 207 provided information for this question. Slightly over two-thirds of the respondents felt that agricultural educators had some interest in materials that opened new opportunities in agriculture entrepreneurship. Only six (2.9%) had no interest. Table 9 presents a summary of the findings.

Table 9
Interest of Agricultural Educators in Materials for Opportunities in Entrepreneurship
(n = 207)

	Number of Respondents	Percent
No Interest	6	2.9
Some Interest	142	68.6
High Interest	59	28.5

Suitability of Agriculture Curriculum Areas for Entrepreneurship Education

The respondents were asked to: Rate the areas of the agricultural education curriculum on how well they are suited for instruction in agriculture entrepreneurship. Eleven areas were listed. A five-point rating scale was used, with 1 = not suited and 5 = well suited.

The number responding to the various items ranged from 187 to 201. The highest rating was given to agribusiness, with a mean rating of 4.54. Agribusiness was followed by horticulture (mean rating = 4.32), production agriculture (mean rating = 4.31), and agriculture supplies/services (mean rating = 4.18). Applied science had the lowest rating (mean rating = 3.10). Natural resources, forestry, leadership, agricultural mechanics, and aquaculture were rated below 4.0 but above applied science.

Table 10 presents a summary of the ratings for each instructional area, including the number responding to each and the mean rating for each.

Table 10
Suitability of Areas in Agricultural Education Curriculum for Entrepreneurship Instruction

RATING	NOT SUITED 1	2	3	4	WELL SUITED 5	n	MEAN
Production Agriculture	1	8	26	57	106	198	4.31
Agribusiness	1	3	17	46	133	200	4.54
Horticulture	0	7	26	63	105	201	4.32
Forestry	3	35	77	41	34	190	3.36
Natural Resources	4	42	80	36	29	191	3.23
Applied Science	11	47	73	39	25	195	3.10
Agricultural Mechanics	1	12	53	59	71	196	3.95
Agriculture Products/Processing	0	11	41	74	65	191	4.01
Aquaculture	2	18	46	59	62	187	3.86
Agriculture Supplies/Services	1	11	32	58	91	193	4.18
Leadership	9	22	62	43	56	192	3.60

Role of the FFA in Entrepreneurship Education

The respondents were asked to write in information about the role of the FFA in entrepreneurship education. The specific question was: What role do you think FFA

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chapters might play in agriculture entrepreneurship education? Of the 209 respondents, 201 gave responses to the question.

More respondents indicated that FFA contests/awards could be provided than any other area. This was followed by a general category that could be referred to as leadership. The role of providing curriculum and inservice education was also ascribed to the FFA. Further, the roles ascribed to the FFA tended to broaden its role from that of a student organization to that of professional initiator and innovator for the entire agricultural education curriculum. Table 11 presents a summary of the findings.

Table 11
Role of FFA Chapters in
Agriculture Entrepreneurship Education
(n = 201)

Role	Number*
Provide Contests/Awards	54
Take the Lead--Serve as Models	37
Provide Activities	20
Provide Curriculu	10
Provide Inservice	8
Encourage SAE	7

*Respondents could list several items. "Number" refers to the number of respondents listing the items.

Part Three: Optional Information

Ways of Expanding Instruction in Entrepreneurship

Part Three of the questionnaire had one question: If you were in charge of expanding instruction in agriculture entrepreneurship, how would you go about the work? The question allowed individuals to offer any suggestions that they wished on the instruction in agriculture entrepreneurship.

Of the 209 respondents, 91 provided information for this question. Developing curriculum and other teaching materials was the most frequently listed area. Teacher education and inservice education for teachers was second in the number of times mentioned.

The responses reflected two broad categories of ideas: products and processes. The products are tools that teachers need in the classroom to deliver the instruction. The process items are strategies and training in strategies for enhancing entrepreneurship education. Products included items such as curriculum and instructional materials. The process items included school-community partnerships and linkages as well as expanding the capacity of the teacher to carry out the instruction. The findings are presented in Table 12.

Table 12
How Respondents Would Expand Instruction in Agriculture Entrepreneurship
(n = 91)

	Number*
Design Curriculum/Materials	69
Provide Teacher Inservice Training	19
Provide Hands-on Training	11
Evaluate What is Needed in Community	8
Develop Teamwork with School, Parents, Job Sites and Students	6

*Respondents could list as many items as they wished. "Number" refers to the number of respondents listing a suggestion.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The research reported here investigated the status of entrepreneurship education in agriculture in secondary school programs of agricultural education in the United States. A scientific sample of 537 secondary agriculture teachers was mailed a carefully designed survey form. Useable responses were received from 209 individuals. The responses were tabulated and analyzed to achieve the purpose and objectives of the research. Some follow-up was used with respondents to validate survey information.

Summary

Nearly two-thirds of the teachers include instruction in entrepreneurship in their agricultural education programs. Agribusiness/agribusiness management and horticulture classes are most often used to teach entrepreneurship. The most commonly used instructional materials are textbooks and local community resources. The major reasons why entrepreneurship was not taught were lack of time and lack of materials. Teachers feel that students should and do have entrepreneurship skills upon graduation from high school. Instruction in agricultural education is provided in varying class and enrollment sizes, with enrollment ranging from 9 to 600 per school. The average enrollment in agriculture per school was 99.21 students.

The respondents felt that instruction in entrepreneurship could be improved if needed resources were available. Curriculum materials, teaching plans, and student-oriented materials were the greatest needs in teaching materials. Inservice education for the teacher was the by far the greatest need in terms of strategies for improving entrepreneurship education in agriculture. An overwhelming majority of the teachers are interested in getting materials on entrepreneurship in agriculture. Agribusiness was felt to be the area in the agricultural education program where the most emphasis should be placed on entrepreneurship. The role of the FFA in entrepreneurship education was to provide contests and awards that reflect entrepreneurship.

When asked to provide strategies for expanding instruction in entrepreneurship, the respondents indicated the need for new curriculum and instructional materials far more than any other item.

Conclusions

The following conclusions have been drawn from the findings of this research:

1. Secondary agricultural education teachers appear to be unclear about the meaning of entrepreneurship in agriculture and how to go about teaching it. (Not quite two-thirds indicated that they taught entrepreneurship. Responses indicated confusion over what entrepreneurship means and strategies for teaching it.)

2. All agricultural education classes can be used to teach entrepreneurship. However, some classes appear to be more adaptable to entrepreneurship education.

3. A wide range of instructional materials are needed that provide instruction in entrepreneurship. These included printed materials as well as computer-based materials. An assortment of materials is currently being used in an attempt to provide entrepreneurship education.

4. Entrepreneurship needs to be enhanced as a priority in the instructional program. Entrepreneurship does not have high priority as an area of instruction in most agriculture programs.

5. Teachers don't feel comfortable with their knowledge of entrepreneurship and the instructional resources that are available to teach it. Efforts to expand the capacity to provide education in entrepreneurship must come from national-level enhancement of the needs in agricultural education.

Recommendations

The following recommendations are made based on the findings and conclusions of the study:

1. The capacity of secondary school agricultural educators to deliver instruction in entrepreneurship education needs to be strengthened. This will require national inservice education initiatives using traditional delivery methods as well as new approaches to inservice education. Distance learning and new telecommunications techniques should be investigated as alternatives in enhancing the capacity of agricultural educators in entrepreneurship.

2. Curriculum guides in all areas of agriculture should integrate appropriate instruction in entrepreneurship. The program planning materials used in developing local programs of agricultural education should include entrepreneurship education. These planning materials should enhance the priority of entrepreneurship in the agricultural education curriculum.

3. New instructional materials need to be developed for entrepreneurship education in agriculture. Separate units on entrepreneurship should be developed. Appropriate inservice education should be provided for teachers in using the new materials. The materials should be easy to use and appropriate to the educational level of the students. Interactive computer and television systems should be a part of any new instructional materials that are developed.

4. Local teachers need strong support from teacher education and supervision in making the transition to expanded entrepreneurship instruction. Pre-service teacher education should included appropriate instruction to prepare teachers. In-service education should be used to expand the skills of teachers in entrepreneurship.

5. Instructional materials leaders in agricultural education should be involved in efforts to appropriately expand instruction in entrepreneurship education in agriculture.

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APPENDIX A

Questionnaire

AGRICULTURE ENTREPRENEURSHIP STUDY

Please answer the questions as related to agricultural education and instruction in entrepreneurship. (How people view entrepreneurship varies. Commonly, entrepreneurship refers to the identification and pursuit of market opportunity in the face of risk--which may result in new businesses and/or products or services.)

Part One: Current Instruction

1. Do you currently include instruction in entrepreneurship in your agricultural education program? (check one)

Yes___ (go to question 2) No___ (go to question 4)

2. What agriculture classes or subject areas are used to teach entrepreneurship? (please list and go to question 3; include information on additional sheet of paper if needed)

_____

_____

3. What instructional materials do you use in entrepreneurship? (please list three and go to the next question; include an additional sheet of paper if needed for all titles)

_____

_____

4. List the main reason(s) why instruction in agriculture entrepreneurship may not be included in an agricultural education program? (please list reason(s) and go to next question; include information on additional sheet if needed)

_____

_____

5. Do classes other than agriculture teach entrepreneurship at your school? (check one)

Yes___ (go to question 6) No___ (go to question 7)

6. What are the names/subjects of the classes other than agriculture that teach entrepreneurship at your school? (please list and go to question 7; use an additional sheet if needed)

_____

_____

7. How much skill in entrepreneurship do most high school graduates NEED? (check one for all graduates and one for graduates who took agriculture and go to the next question)

	ALL GRADUATES (check one)	AGRICULTURE GRADUATES (check one)
No skill	_____	_____
Some skill	_____	_____
Highly skilled	_____	_____

8. How much skill in entrepreneurship do most high school graduates HAVE? (check one for all graduates and one for graduates who took agriculture and go to the next question)

	ALL GRADUATES (check one)	AGRICULTURE GRADUATES (check one)
No skill is needed	_____	_____
Some skill is needed	_____	_____
High skill is needed	_____	_____

9. How many students are enrolled in agriculture classes at your school? _____

(over)

Part Two: Alternatives for Improving Entrepreneurship Instruction in Agricultural Education

10. What teaching materials are needed? (Rate the following on a 5-point scale, with 1 = lowest importance and 5 = highest importance; numbers between 1 and 5 can be used to indicate other levels between lowest and highest. ALSO, place an X by the one item of greatest need. Go to the next question.)

Circle one number for each to indicate importance:	LOW				HIGH	
	1	2	3	4	5	Curriculum guides that include agriculture entrepreneurship
	1	2	3	4	5	Teaching plans on agriculture entrepreneurship
	1	2	3	4	5	Student-oriented materials on agriculture entrepreneurship
	1	2	3	4	5	Teacher reference materials on agriculture entrepreneurship
	1	2	3	4	5	Computer-based programs in agriculture entrepreneurship
	1	2	3	4	5	Video tapes on agriculture entrepreneurship

11. What teaching strategies are most needed to improve entrepreneurship instruction? (Rate the following on a 5-point scale, with 1 = lowest importance and 5 = highest; numbers between 1 and 5 can be used to indicate other levels of importance. ALSO, place an X by the greatest need. Go to the next question.)

Circle one number for each to indicate importance:	LOW				HIGH	
	1	2	3	4	5	FFA awards/contests on agriculture entrepreneurship
	1	2	3	4	5	Examples of student teamwork activities
	1	2	3	4	5	Examples of student organization activities
	1	2	3	4	5	Inservice education for the teacher

12. In general, how interested are agricultural educators in materials that open new opportunities in agriculture entrepreneurship? (check one and go to the next question)

No interest___ Some interest___ High interest___

13. Rate the areas of the agricultural education curriculum on how well they are suited for instruction in agriculture entrepreneurship. (Use a 5-point scale, with 1 = not well suited and 5 = well suited; numbers between 1 and 5 can be used to indicate other levels of suitability. Go to the next question.)

Circle one number to indicate suitability of the area for entrepreneurship education:	NOT SUITED				WELL SUITED	
	1	2	3	4	5	Production agriculture
	1	2	3	4	5	Agribusiness
	1	2	3	4	5	Horticulture
	1	2	3	4	5	Forestry
	1	2	3	4	5	Natural resources
	1	2	3	4	5	Applied science
	1	2	3	4	5	Agricultural mechanics
	1	2	3	4	5	Agriculture products/processing
	1	2	3	4	5	Aquaculture
	1	2	3	4	5	Agriculture supplies/services
	1	2	3	4	5	Leadership

14. What role do you think FFA chapters might play in agriculture entrepreneurship education? (use additional paper, if needed)_____

_____

Optional:

15. If you were in charge of expanding instruction in agriculture entrepreneurship, how would you go about the work? (please describe/list; use additional sheet if needed)

_____

Thank you for your help. Any materials that you have to share would be welcomed. ***If you would like to be involved in future activities, enclose your name and address.*** Please return the questionnaire in the envelope provided to Dr. Willie J. Cheatham, P. O. Box 323, Normal, AL 35762.

APPENDIX B

Cover Letter

ALABAMA AGRICULTURAL AND MECHANICAL UNIVERSITY

NORMAL, ALABAMA 35762

SCHOOL OF AGRICULTURAL AND
ENVIRONMENTAL SCIENCE
DEPARTMENT OF AGRIBUSINESS

POST OFFICE BOX 323
TELEPHONE: (205) 851-5411

May 6, 1994

Dear Agricultural Educator:

The National Council for Agricultural Education is currently studying entrepreneurship education in agriculture in the United States. Your assistance is needed by providing information about entrepreneurship as related to your agricultural education program. We are excited about the potential outcome of this initiative.

Here is all you need to do: Fill out and return the enclosed survey form in the postage-paid envelope. It will take about five minutes to provide the information. We want to have the best possible information about what is going on in entrepreneurship education. (The return envelope has a number code which will be used only to identify those who do not respond. The survey forms aren't coded. The responses will in no way be identified with individuals.)

Your input is essential for this study to be successful. **Please respond by May 16, 1994.**

You are very important in helping provide information for future developments in entrepreneurship education for the United States. We want your best information.

Please feel free to contact us if we can assist in any way.

Sincerely,

Willie J. Cheatham

Willie J. Cheatham, Chairperson
Department of Agribusiness Education

Larry D. Case

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Larry D. Case
National FFA Advisor
and
Advisor to The National Council for Agricultural Education

APPENDIX C

Reminder Card

Dear Agricultural Educator: May 10, 1994

You were selected in a small sample representing the agriculture teachers in the United States and mailed a survey instrument a few days ago on entrepreneurship in agricultural education.

If you have already completed and returned it to us, please accept our sincere thanks. If not, please do so today. I want to make sure that the results accurately represent U.S. agricultural education programs.

If by some chance you did not receive the survey form, or it was lost, please let me know. I will send another one in the mail to you immediately. Your response will be appreciated. (Individuals who do not respond will be contacted by telephone.)

Sincerely,

Willie Cheatham, Chair
Department of Agribusiness Education
Alabama A & M University
P. O. Box 323
Normal, AL 35762

Reports of

ACTIVITIES IN ENTREPRENEURSHIP EDUCATION

IN THE UNITED STATES

Report of Activities in Entrepreneurship Education

STATE DEPARTMENTS OF AGRICULTURE

Letters requesting information on entrepreneurship education were sent to 50 State Commissioners of Agriculture, and 24 responses were received. The findings are reported here.

Florida promotes and provides instruction on alternate crops, added-value crops, business plans, etc.

Georgia provided an elementary school activity booklet, "Ag in the Classroom."

Louisiana noted that they have some courses in the merchandising area in entrepreneurship.

Maryland provides MPP (Market Promotion Program) Seminar.

North Carolina provides the On-Farm Demonstration Project, Alternative Ways to Grow, and Small Farms Horticultural Marketing Project.

North Dakota provides a Marketplace Learning Packet.

Pennsylvania works with the Department of Commerce, SBDC, and Cooperative Extension.

Brochures promoting agriculture were sent by four State Departments of Agriculture.

Thirteen states reported no materials or work in the area of entrepreneurship. Some referred to other people, usually the Extension Service or the College of Agriculture at a University.

Report of Activities in Entrepreneurship Education

STATE COOPERATIVE EXTENSION SERVICE AGENCIES

Fifty-one letters were mailed to the Directors of State Cooperative Extension Service Agencies. Responses were received from 18 agencies.

Six Cooperative Extension Service agency directors noted that they provide assistance with home-based businesses. In addition to working with home-based businesses, Alabama conducts "Small Business" agent training programs, but nothing in agriculture.

Maine has three projects administering entrepreneurial education :

(1) Entrepreneurial Loan Project, funded by Pine Tree State 4-H Foundation.

(2) Two pilot projects addressing teaching entrepreneurship to youth

(3) High School Financial Planning Program.

Maine also provides educational assistance to those in natural resource-based industries as well as entrepreneurs in other sectors. Materials used are:

(1) Fundamentals of Business, published by Southern Rural Development Center at Mississippi State

(2) Beyond a Dream: An Instructional Guide for Small Business Exploration, published by the National Center for Research in Vocational Education, Ohio State University, and

(3) Farming Alternatives: A guide to Evaluating the Feasibility of New Farm-Based Enterprises, published by the Northeast Regional Agricultural Engineering Service, Cornell University.

Mississippi State Cooperative Extension Service uses Small Business Administration materials and conducts workshops and seminars for individuals contemplating going into business.

Missouri uses materials on starting a small business developed by Western Rural Development Center.

Montana conducts Small Business Development workshops.

Ohio, in addition to home-based business assistance, works with existing small retail businesses. They report that they have no entrepreneurship education in 4-H youth.

Pennsylvania, Rutgers, and University of Tennessee Cooperative Extension Service agencies report they have no information on entrepreneurship education.

Purdue, in addition to working with home-based industries, noted that Dr. Doster has written a book on Entrepreneurship (included in Bibliography) and has worked with $-H on entrepreneurship training.

Clemson provides training through 4-H Business Demonstration Reference "Methods of Doing Business."

Texas provides training on Fundamentals of Business and works with home-based businesses.

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Report of Activities in Entrepreneurship Education

STATE OFFICES OF ECONOMIC DEVELOPMENT

Forty-two letters were sent out to Economic Development Offices across the nation. Eight responses were received. Five letters were returned with incorrect address and no forwarding address.

North Dakota reported that they conduct workshops entitled "The Top Ten Mistakes Businesses Make...And How to Avoid Them," which deal with entrepreneurship education.

Wyoming has a General Entrepreneurship Training Program sponsored by U.S. West Foundation: The Fast Trac Program.

The other six states reported no work being done in entrepreneurship education.

Report of Activities in Entrepreneurship Education

STATE SUPERINTENDENTS OF EDUCATION

Letters were sent to 56 State Department of Education Superintendents; 28 responses were received.

Of the 28 responses, 9 states reported some entrepreneurship courses. Illinois and South Dakota reported that they integrate entrepreneurship in all vocational curriculum. North Carolina integrates entrepreneurship instruction in all agriculture courses. Washington and South Carolina offer an entrepreneurship course for elective credit in 11th and 12th grades. Kansas is providing state funding for entrepreneurship courses and has over 100 programs in secondary schools and community colleges. New Mexico does not require entrepreneurship education for graduation but has developed K-12 entrepreneurship education competencies and provided training for teams of educators and administrators. Puerto Rico includes entrepreneurship education in marketing courses. Washington, DC has taught entrepreneurship since 1979 and received a $1,000,000 grant to implement entrepreneurship programs in their public schools. They use PACE along with other materials.

Five states reported that one semester of Economics is required for graduation, while three states offer one semester of economics for elective credit. One state (Arkansas) requires Economics education in K-6. Delaware requires 15 hours of introductory Consumer Education in 7th grade, 15 hours in 9th grade, and 15 hours as part of a 12th grade Problems of Democracy course.

Two states reported that entrepreneurship is included in Social Studies courses. Eight states listed no state requirements in either economics or entrepreneurship

Some of the programs that were reported being used are: Junior Achievement, EconomicsAmerica, and PACE.

Report of Activities in Entrepreneurship Education

STATE SUPERVISORS OF AGRICULTURAL EDUCATION

Letters of inquiry were sent to 48 State Supervisors of Agricultural Education requesting information on entrepreneurship education in each state. Five responses were received; however, some of their responses came through the Department of Education and were included in that area.

Richard Katt, Director of Agricultural Education, Nebraska Department of Education, sent copies of the following items which they use in their program: Entrepreneurship Curriculum, Entrepreneurs Case Histories, Agricultural Education Scope and Sequence and Program Management Guide: Focusing on the Future, Risks & Rewards of Entrepreneurship (with Teachers's Resource Guide) developed by The National Center for Research in Vocational Education, The Ohio State University.

Edward Smith, State Supervisor of Agricultural Education, Stillwater, Oklahoma, has no implementation in Agricultural Education or FFA in Oklahoma. He indicated some schools are using REAL programs.

Ed Mueller, State Supervisor, Agricultural Education, South Dakota Department of Education and Cultural Affairs, uses "Records for Use with Non-production Ag Entrepreneurship SAE Projects in South Dakota."

Everett Harris, University of Vermont, sent sample set of competencies required in Horticulture Science. Several teacher are starting to use REAL materials.

C. W. Reed, State Specialist, Agribusiness Education, Alabama Department of Education, sent the *Curriculum Guide for Agribusiness and Agricultural Mechanics, 12th Grade*, which includes a section on entrepreneurship under the Farm and Business Management instructional unit.

Report of Activities in Entrepreneurship Education

UNIVERSITY TEACHER EDUCATORS IN AGRICULTURAL EDUCATION

Letters were mailed to 85 University Teacher Educators in Agricultural Education throughout the nation. Nine responses were received; however, some may have been included in other areas.

Alfred J. Mannebach, University of Connecticut, sent the curriculum for Agribusiness Management, which includes instruction on entrepreneurship.

Edward Osborne, University of Illinois at Urbana-Champaign, reports they do not do anything in the area of entrepreneurship beyond the basic work on SAE programs.

Leonard Harzman, Western Illinois University, reports they do not do much with entrepreneurship education specifically.

Frank Bobbitt, Michigan State University, reported that entrepreneurship instruction is given in Methods class and in a graduate class. He has worked with a college in Lesotho in developing its entrepreneurial program.

Ken Schneeberger, University of Missouri-Columbia, sponsors an annual Entrepreneur's Day, and places emphasis on entrepreneurship and risk management in BS and MS agribusiness management program. They also provide lectures on owning your own business in their Hotel and Restaurant Management major.

University of Nebraska reported no materials. (Some are recorded on the State Supervisors of Agricultural Education for Nebraska.) Allen G. Blezek, University of Nebraska-Lincoln, reports they have been concentrating on leadership and have not been working in the area of entrepreneurship.

Lester H. Myers, Virginia Polytechnic Institute and State University, sent syllabi of three courses taught in undergraduate programs that deal with entrepreneurship.

Carl Reynolds, University of Wyoming, includes entrepreneurship instruction in Principles of Agricultural Education and in Methods classes. SAE, record keeping and proficiency awards are included as part of the total content of the course. In the past, they have included a sample record book computerized problem as a key focus of the instruction.

Report of Activities in Entrepreneurship Education

GROUPS, FOUNDATIONS, AND AGENCIES

Several groups, foundations, and agencies were sent letters requesting information on entrepreneurship education, particularly in agriculture. The responses are reported here.

EconomicsAmerica, National Council on Economic Education. A Master Curriculum Guide, Economics and Entrepreneurship, Student Activities of Master Curriculum Guide; and Entrepreneurship in the U. S. Economy (Teacher Resource Manual and Student Activities).

Farm Facts. American Farm Bureau Federation, 225 Touhy Avenue, Park Ridge, IL 60068.

Illinois Department of Commerce and Community Affairs, Jan Grayson, Director, 620 East Adams Street, Springfield, IL 62701. Self-Employment Training Program (SET) and Agri-Comp, developed by the Department of Commerce and Community Affairs and various private and public partners. Agri-Comp was funded through DCCA for the first 3 years and offers education in a computer farm management system during December through March; the program is based at Lincoln Land Community College, Keith Washburn, Coordinator; phone 217-546-5955.

Junior Achievement, 500 Third Street #44, Wausau, WI 54401. Implementing Applied Economics, A Guide for Superintendents and Principals, A Junior Achievement Program.

Maine Displaced Homemakers Program. Two brochures: New Ventures--Entrepreneurship Training for Women, and Venturing Forth--a Guide for Going into Business. Eloise Vitelli, Associate Director, University of Maine at August, ME 04330-9710. Phone 207-621-3440, FAX 207-621-3429.

Master Curriculum Guide, Economics and Entrepreneurship, Student Activities, Joint Council on Economic Education, grant to National Federation of Independent Business.

Mid-America Vocational Curriculum Consortium (MAVCC). New curriculum material "Developing Entrepreneurial Attitudes," to be available soon. Sue Buck and Jane Houston, Phone: 800-654-3988.

Mississippi Department of Economic and Community Development, Entrepreneur's TOOL KIT. P. O. Box 849, Jackson, MS 39205.

The Ohio State University, Center on Education and Training for Employment, 1900 Kenny Road, Columbus, OH 43210-1090. Phone: 614-292-4353, Fax: 614-292-1260. Product Catalog. Flyer describing 3rd edition for PACE (Program for Acquiring Competence in Entrepreneurship) Curriculum.

National Center for Research in Vocational Education, Graduate School of Education, University of California at Berkeley, W. Norton Grubb, Site Director, 3521 Tolman Hall, Berkeley, CA 94720. Phone: 510-642-3488.

National Foundation for Teaching Entrepreneurship, 64 Fulton Street, Suite 700, New York, NY 10038. Phone: 212-233-1777, Fax: 212-233-3992. Leaflets and Video. Founded by Steve Mariott, New York High School Teacher.

University of Nebraska Lincoln, Center for Entrepreneurship, College of Business Administration, 1237 R Street, Suite 203, P. O. Box 880226, Lincoln, NE 68588-0226: List of courses taught (Management 444/844--Entrepreneurship and Venture Management, and Management 448/848--Franchise Management), copy of Midwestern Business Plan Competition, Global Conference on Creative Entrepreneurship, Women and Entrepreneurship: Making the Vital Connections program, program on Ninth Nebraska Conference on Productivity and Entrepreneurship, Young Entrepreneurs Seminars, workshops "Profiting, Marketing, and Networking your Home-Based Business," and Entrepreneur Advantage, a monthly publication from the Association of Collegiate Entrepreneurs and Students in Free Enterprise, University of Nebraska-Lincoln, and the Nebraska Center for Entrepreneurship--Patty Duggan, Editor.

Center for Innovation and Business Development, Box 8103 University Station, Grand Forks, ND 58202. Jim Melland, Assistant Director. The Business Plan: A State-of-the-Art Guide and The Marketing Plan: Step-by-Step.

REAL Enterprises (Rural Entrepreneurship through Action Learning), 1160 S. Milledge Avenue, Ste 130, Athens, GA 30606. Phone: 706-546-9061

Report to the Kauffman Foundation Entrepreneurial Program Development Committee, K-12 Entrepreneurship Education Conference, Orlando, FL January 14-16, 1993, by Nicole Guthrie. Summary Chart of K-12 Entrepreneurship Education Environmental Scan as of September 17, 1993.

Resource Guide to Educational Materials about Agriculture, U. S. Department of Agriculture, August, 1993 edition.

Rhode Island Department of Environmental Management. "1990 Agricultural Facts," and other small brochures used for education and promoting agriculture in Rhode Island. Ronald D. Newman, Agriculture Products Inspector, 22 Hayes Street, Providence, RI 02908-5025. Phone: 401-277-2781.

Small Business Development Center, University of Wisconsin-Extension. William H. Pinkovitz, Director, 432 N. Lake Street Madison, WI 53706. Phone 608-263-7794.

Students In Free Enterprise, Inc., 1959 E. Kerr Street, Springfield, MO 65803. Alvin Rohrs, J.D., President and CEO. 1992-93 Information Recap from Annual Reports. Phone: 417-831-9505.

USDA-Cooperative State Research Service-Office of Agricultural Materials, Mr. Vivam M. Jennings, Room 3851 South Building, Washington, DC 20500-0900. Phone 202-720-5623, FAX 202-720-4924.

Washington State University Center for Community Education and Economic Development, 411 Hulbert Hall, WSU, Pullman, WA 99164-6230 (funded by Charles Stewart Mott Foundation). Rob McDaniel, Director.

"Youth Enterprise in Agriculture, A Career and Leadership Development Program for Arkansas Youth sponsored by Arkansas Land and Farm Development Corporation.